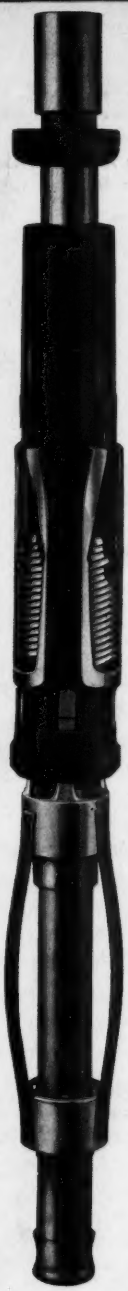
CALIFORNIA
OIL WORLD
A Petroleum Newspaper

Tulsa Public Library,
Attn: Technical Dept.,
Tulsa, Okla.
267-F

TEMBER 20,
1937

TULSA PUBLIC LIBRARY
TECHNICAL DEPARTMENT
TULSA, OKLAHOMA



THEY PROTECT YOUR TUBING AND INCREASE PUMP EFFICIENCY

Today you do not need to "trust to luck" and risk the danger of a dropped or parted string of tubing. BJ Tubing Catchers set instantly in the event of an accident, and the extra-large slips stop the tubing safely, without damage to the casing. At all times while running-in, coming-out, or when suspended in the well, you have complete protection.

By adding a BJ ANCHOR and setting the catcher, vertical movement of the tubing while pumping is eliminated. Wear on couplings and casing is avoided — the number of pulling jobs is reduced — and the stationary anchored pump by taking a full stroke develops its full efficiency, limited only by the amount of oil that is available.

TWO TYPES MEET EVERY NEED

BJ SHORTYPE "C" CATCHERS offer ample tubing protection in wells of average depth. Their low cost makes it economically possible to safeguard even the shallowest well. BJ SURESTOP TUBING CATCHERS (with or without anchor shown at left) are safe for the longest, heaviest strings of tubing.

Complete details are given on pages 390 to 393 of the 1937 Composite Catalog, or write the office nearest you for the BJ Catalog.

BYRON JACKSON CO.

FORT WORTH • LOS ANGELES • NEW YORK

THE SENTINEL OF SAFETY Prevents

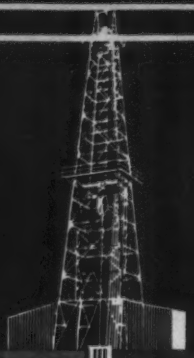
Accidents Like These

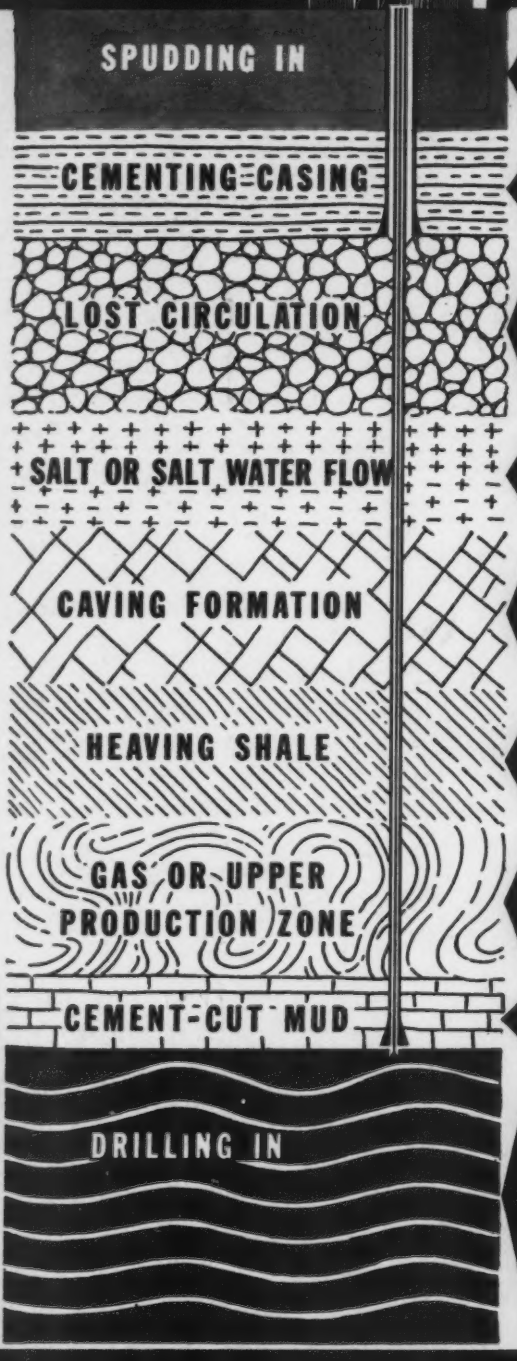
BJ TUBING Catchers

Your BEST INSURANCE AGAINST TUBING ACCIDENTS!

Vol. 30
No. 18
Whole
No. 1497

There's a BAROID PRODUCT *for every step in drilling*





AQUAGEL
BAROCO

Aquagel—Concentrated colloidal gel-forming clay. One ton makes about 150 barrels of excellent drilling fluid when mixed with fresh water.

Baroco—For use where water is contaminated with salt.

AQUAGEL-CEMENT

Aquagel-Cement—Gives a better bond between casing and hole, improving shut-off of gas, water, or oil.

AQUAGEL
FIBROTEX
AQUAGEL-CEMENT

Aquagel—In proper concentration often prevents or restores loss of circulation.

Fibrotex—12 to 14 lbs. of **Fibrotex** per barrel of mud provide unusual sealing qualities.

Aquagel-Cement—Possesses unusual ability to plug creviced or cavernous areas. Does not flow out like neat cement.

BAROCO
BAROID

Baroco—Maintains viscosity and wall-building properties in the presence of salt.

Baroid—Muds suitably weighted with **Baroid** counterbalance the pressures from salt water flows.

AQUAGEL
BAROID

Aquagel—By preventing the penetration of water, the use of **Aquagel** frequently eliminates the tendency of formations to cave.

Baroid—Muds weighted with **Baroid** have demonstrated their efficiency in holding caving formations in place.

BAROID
STABILITE

Baroid—Muds can be made up to high weights for the control of heaving or disintegrating shale.

Stabilite—The improved chemical thinner—maintains workable viscosities even though highly weighted muds are used in shale areas.

STABILITE
BAROID
AQUAGEL

Stabilite—Frees entrained gas and reduces viscosity.

Baroid—Pumpable muds weighing as much as 145 lbs. per cubic foot can be made with **Baroid**.

Aquagel—Helps prevent the filtration of water into formations.

STABILITE

Stabilite—Often prevents discarding cement-cut mud by reducing viscosity and restoring wall-building properties.

AQUAGEL
BAROID
STABILITE

Aquagel—Wells drilled in with straight **Aquagel** water mud in low pressure areas, swab on production and clean up quicker because the thin, impervious mud cake is very easy to remove.

Baroid—A combination of **Baroid** and **Aquagel** provides the ideal drilling fluid for pressure areas.

Stabilite—Provides safety by keeping mud free of gas, thereby maintaining weight required. • • • *Stocks of Baroid Products, and Service Engineers, are available in or near all active oil fields.*

BAROID SALES DEPARTMENT

NATIONAL PIGMENTS & CHEMICAL DIVISION OF
NATIONAL LEAD COMPANY
BAROID SALES OFFICES • LOS ANGELES • TULSA • HOUSTON

CALIFORNIA
OIL WORLD
and Petroleum Industry

THE AUTHORITY ON THE CALIFORNIA OIL INDUSTRY

SEPTEMBER 20, 1937
VOL. 30 » NO. 18
WHOLE NO. 1497

TULSA PUBLIC LIBRARY
TECHNICAL DEPARTMENT
TULSA, OKLAHOMA

IN THIS ISSUE

In Defense of Labor 3
The Hancock Oil Co.—Chapter I 5
Barnesons Add to General Petroleum Series 10
Fremming Tells Aims of Oil Union 12
Standard Labor Case Before Board 14
A. I. M. M. E. To Meet Oct. 1 16
The C. N. G. A. Section—Page 17
Burks Tells Aims of Association 19
Air Conditioning—By J. F. Kooistra 22
C. N. G. A. Pictures 26
Water Vapor Content of Natural Gases—By Edgar E. Shafer, Jr. 28
Suppliers' News 30
Personal Mention 31

Coastal District Development 33
State Drilling, Production Statistics 34
Los Angeles Basin Development 36
San Joaquin Valley Development 38
Laugh This Oil 40
Getty Well Latest of Shallow Blowouts 42
Gasoline Sales 43
Harbor Drilling Still Delayed 44
Suppliers' News and Personal Mention 46-47-48

PETROLEUM PUBLISHERS, INC. PETROLEUM SECURITIES BUILDING
LOS ANGELES, CALIFORNIA - MEMBER OF THE AUDIT BUREAU OF CIRCULATIONS

WALTER C. MONROE	President	R. N. RICHEY	Assoc.-Editor
M. S. FOX	Vice-Pres.	DAVIS E. BROWNE	Secty.-Treas.
STARK FOX	Editor	GEORGE S. MacDONELL	Advertising Manager

L. O. MILLER, Manager, California Oil World News Service

California Oil World and Petroleum Industry is published twice a month at 536 Petroleum Securities Bldg., 714 West Olympic Blvd., Los Angeles, California. Entered as Second-class Matter January 1, 1937, at the post office at Los Angeles, California, under the Act of March 3, 1879. Subscription price: $1 per year in U. S. and possessions, $2 in foreign countries, including Canada. Member of the Audit Bureau of Circulations.

WE *still* SAY, "THERE'S NO ECONOMICAL SUBSTITUTE FOR AXELSON PRODUCTS"

AXELSON

Axelson Manufacturing Company, P. O. Box 98, Vernon Station, Los Angeles • St. Louis • 50 Church Street, New York • Tulsa
Mid-Continent and Eastern Distributor: Frick-Reid Supply Corporation • Rocky Mountain Distributor: Great Northern Tool & Supply Company

DEEP WELL PLUNGER PUMPS • SUCKER RODS

CALIFORNIA
OIL WORLD
and Petroleum Industry

In Defense Of Labor

On another page of this issue will be found excerpts from Harvey Fremming's Labor Day speech at Fort Worth, Texas. Mr. Fremming is president of the Oil Workers International Union, and has been active in oil labor ranks for a number of years.

Perusal of Mr. Fremming's talk will disclose an ingenious defense of the union's inability to keep its members in line, as well as an indication that the union is not only aware of, but seems to be planning to use with even greater vigor, the political power it so amply demonstrated at the last national elections.

These remarks of Mr. Fremming's do not apply with as great force to the Oil Workers Union as they do to the C.I.O., of course. In the first place, the oil union has not so demonstrated its strength that it has been able to tie up the entire oil industry in strikes, as has the automobile union, nor has the oil union thus far violated any agreements it has with oil industry employers, as has the automobile union. Mr. Fremming's defense of the union on this point is particularly interesting. In short, he blames past practices of management by saying that management's habits of playing "fast and loose" with employee agreements has kept the employee from realizing that a contract between the employer and employee, as represented by his union, is "as binding as any other contract which helps to make of our civilized life a dependable set of relationships." To Mr. Fremming's credit it must be said that he definitely says that union members must learn that these contracts must be lived up to.

The awareness of political strength is amply demonstrated by Mr. Fremming's remark that "The workers are coming to see the relationship between their jobs and their citizenship, between their pay-roll—or the lack of it—and their ballots." The inference is plain: A strong union is a political weapon which the people of the country must reckon with. Mr. Fremming's belief that this weapon will be used only for the betterment of the country is one point of view. The other, that the weapon will be used solely for the benefit of labor, is held in a great many quarters.

In any event, it behooves employers to realize that labor is going to continue to demand what it conceives to be its rights, and in a great many cases, these demands will be completely justified. That the oil industry has had little labor trouble is due in no small part to the enlightened attitude of oil industry employers, and that this policy pays dividends in the form of generally contented labor is proved by the very fact of the absence of strife. Continuation and amplification of this policy is, right now, the best guarantee of future peaceful negotiations, which can continue to keep labor strife out of the oil business.

This wire rope is the TOUGHEST on the job!

AMERICAN Tiger Brand Wire Lines are tough. They are strong, and yet elastic enough to withstand the sudden shocks of drilling. They are flexible. They handle easily. They are safe and economical to use. Their uniformly high quality saves you money by reducing the danger of delays due to breakage.

The ability of American Tiger Brand Wire Lines to stand up under heavy punishment is provided for in the specifications to which they are precisely made . . . guaranteed by the care with which they are produced by experienced men in our plants . . . proved by their efficient and economical use in the field.

Engineering progress has made possible such a wide range of types, sizes, and grades that there is a correct wire line for each job. American Tiger Brand Wire Lines are available in Standard (non-preformed) or Excellay (preformed) constructions. Our engineers can help you determine which wire lines are the most practicable and most economical for your requirements.

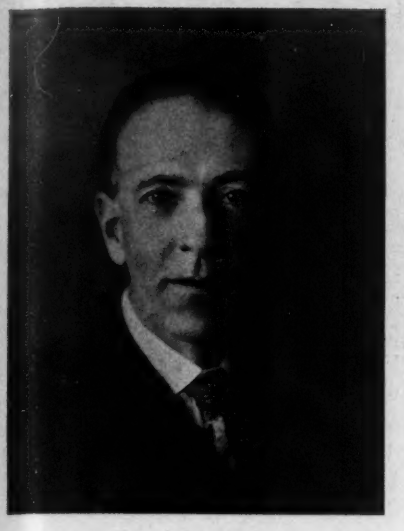
U·S·S AMERICAN TIGER BRAND WIRE LINES

COLUMBIA STEEL COMPANY
Russ Building, San Francisco

AMERICAN STEEL & WIRE COMPANY
Cleveland, Chicago and New York

United States Steel Products Company, New York, *Export Distributors*

UNITED STATES STEEL



John Walker Hancock, after years of practical oil experience in the Mid-Continent, came to California in the summer of 1922 and founded the Hancock Refining Company. His knowledge of the refining business and his faith in the future of petroleum were largely responsible for the company's steady, though often turbulent, growth from 1922 to 1929.

This, the first installment of the story of the Hancock Oil Co., continues the series being presented by the California Oil World and Mitchum, Tully & Co., California investment dealers, on the companies making up the California oil industry of today.

Will Reid, first and only presiden tof Hancock Refining and its successor companies, was inactive in the management during the company's first years. But as the odds against the success of the little company mounted he took over the fiscal affairs of the company while Walker Hancock carried on the oil end of the business.

The Hancock Oil Company of California

Chapter I—The Chick Is Hatched, 1922-1927

By Eugene I. Harrington

As the Santa Fe's crack transcontinental train highballed across the Mojave desert, John Walker Hancock's thoughts kept turning to an ambition he had been secretly nursing for nearly twenty years. He wanted to be an independent oil refiner; in all the years of fighting his way up in the Mid-Continent oil fields he had never lost sight of that goal. Now, if all the things he had heard about the spectacular discoveries in the Los Angeles Basin were true, he was about to realize his long-held ambition. He had worked and saved toward its fulfillment and as the train approached Los Angeles his inward excitement reminded him of the traditional Horatio Alger hero arriving in the big city with a heart thumping with unaccustomed rapidity.

Hollywood with its galaxy of movie stars and other celebrities is usually the immediate mecca of strangers arriving in Southern California for the first time. But not for Walker Hancock.

"All that can wait," he told the friends who met him at the station. "Right now I want to see Signal Hill, Santa Fe Springs and Huntington Beach. I just want to wander around those fields until I feel at home. I want to get acquainted with the producing gang and find out if the stories I heard from one end of the Mid-Continent to the other are actually true. If all the things I've heard about the Hill, the Springs and Huntington check, then I want to build a refinery."

"Remember, I'm no stranger to this refining game; I've been at it since I was a kid and I know that a small refinery adjacent to a flush field can make real money. Unless I miss my guess these three fields will soon be hitting their peak and when they do I want to be in there."

That was in the summer of 1922 and Walker Hancock, without even seeing the Big Three, had made as accurate a forecast of the future of those fields as any man living. And he knew, from long experience, that a refiner, to make a go of that end of the oil business alone, had to have the "easy" oil that went with flush production.

Hancock Sees the Hill

Inspection of the three fields in the days following Hancock's arrival

confirmed his earlier judgement. The new producing areas were all that had been claimed for them by the men in Mid-Continent.

"I've never seen anything like this for concentrated production," he commented. "I'd heard some pretty fancy tales about these three fields but I'd discounted them considerably; you know how stories grow by the time they've traveled a couple of thousand miles. But I can see now that the boys weren't kidding because this layout beats anything I've ever run across."

Like other newcomers to the Bonanza Trio he felt the excitement, bustle and intensity of a big and vital industry doing a tremendous job. He marveled at the thousands of men who were taking a living out of those comparatively few acres and at the millions of dollars worth of oil that came pouring out of that common-looking earth every day. Walker Hancock loved the oil business; he had faith in its future and he firmly believed that his industry hadn't yet scratched the surface of its potentialities.

Day after day he journeyed through the new oil fields, stopping frequently to talk with producers, drillers and others actively engaged in the amazing development. These conversations and the activities he observed convinced Hancock of the real need for a plant that could refine the oil of the hundreds of independent operators in the three fields.

Although early observations confirmed his initial judgement, Walker Hancock refused to act impulsively. He had seen too many able men go broke in the oil business to plunge headlong into a new venture without a thorough investigation. More days were spent in detailed study of the many factors which might contribute to the success or failure of his cherished enterprise. But further investigation only brought more convincing proof of the soundness of his plan. After carefully weighing the facts that he had gathered, checking and rechecking, John Walker Hancock made his decision —he would enter the oil business in California as an independent refiner.

The First Blow

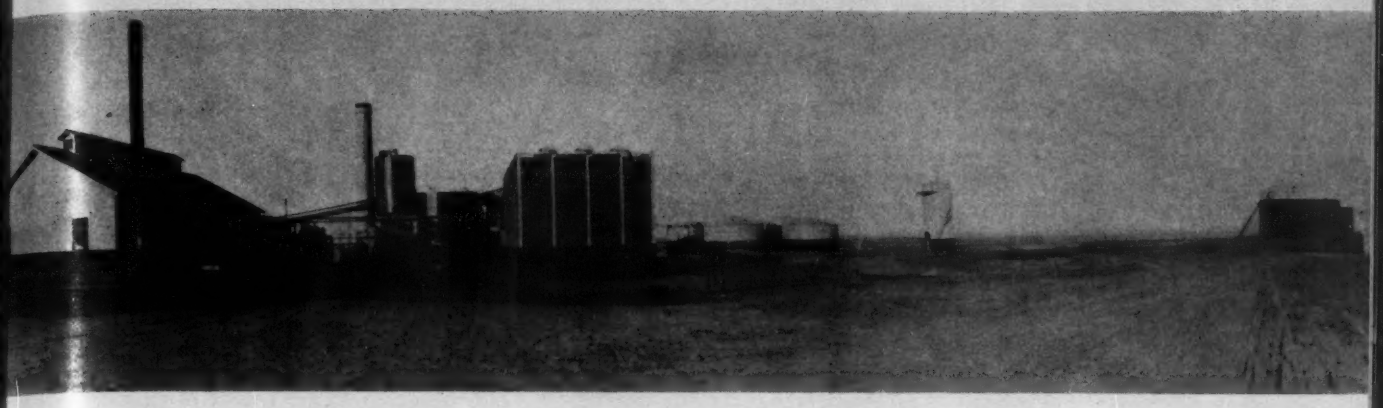
Once his mind was made up, Hancock wasted no time in finding a suitable site for his refinery. The city of Long Beach had restrictions against refineries but oil had suddenly become so important to that community's economic well-being that the city councilmen decided to let the bars down and allow the Hancock Refining Co. to build its plant on a 10-acre site within the city limits. Permission was formally given, the land was secured, plans were drawn and contracts let. Then, a few days before ground was to be broken, came the first of many blows that were to be dealt the company. The municipality, despite its overtures and pronouncements of weeks before, suddenly decided that it didn't want oil refineries within the confines of Long Beach after all.

The office of the company, in 1924, was sufficiently large during that first year of business to house the small staff that was then required to handle the sales and refining activities of the struggling young Hancock Refining Company.

Walker Hancock was a direct descendant of the pioneer Hancocks of Virignia; part of his heritage had been a deep-rooted conviction that a pledge is sacred; that a gentleman's word once given is not to be ignored. That had been a governing rule of his life and he had a withering contempt for a man who would go back on his word. When he learned of the new decision which the city fathers had rendered, all the fighting instincts of his ancestors rose to the boiling point in their 39-year-old namesake. He appeared before the council and hotly demanded a reconsideration of his company's case. He carefully explained that he had spent months in planning a refinery for the site that the council had approved. He told them time was precious and that the selection of a new site would mean months of delay. He gave them a detailed breakdown of his expenditures to date; he explained that he wasn't a rich man and couldn't afford to go to that same expense again. To his eloquent, factual plea he received the typically political reply, "We are sorry but the people have protested." Thus, with a few weak words of excuse, the ambitions of a lifetime were nearly crushed and the company that was destined to take a place among the leaders in the industry came perilously close to disaster.

But Hancock was a fighter. Furthermore, standing solidly behind him and firmly believing in the Virginian, were a handful of friends. Among these was Will J. Reid, Hancock's brother-in-law, and who by this time had become interested in the company and was its president, although actual management rested with Hancock. Both knew that the building of a refinery could be delayed no longer. With the assistance of Reid and other friends, new capital was obtained, another refinery site was purchased, this time safely outside the city limits of Long Beach, and construction was started. In January, 1924, the first oil was run through the Hancock refinery.

But by that time "easy" oil was becoming scarce; as Hancock had predicted 18 months before, the Bonanza Trio had reached its peak and production in all three fields had be-



The Hancock Refining Company's first plant, in the shadow of Signal Hill, as it appeared in 1924 during the first year of the company's operations.

gun to fall off. The flush days that Walker Hancock had depended on for his start were a thing of the past and he now had to fight for every barrel of oil that his company purchased.

The changed plans, the long drawn out political battle with the City of Long Beach, and the higher cost of crude were all taking their toll on the financial resources of the struggling young company. The capital that Hancock had saved during years of hard work was completely gone and the supplementary funds of Reid and his friends had been spent for the construction of the refinery. Conservative and careful as Hancock had been, he nevertheless found by the end of 1924 that producers, with a ready market for their oil, were becoming increasingly reluctant to sell their crude to a company whose financial position was whispered to be weak.

Despite the odds against them Hancock and Reid were far from licked. The rumors of impending failure that beat on their ears with increasing frequency only made these two men fight harder. Reid took an active interest in the management; it was then and there decided that Hancock would handle the oil end of the business and Reid the fiscal end. They were friends, and together they would see it through.

The Hancock Refining Co. had been formed in 1922 for the sole purpose of refining oil produced by the independent operators in the Los Angeles Basin fields. In 1924 its only important property was the 2,500-barrel refinery that had been completed the year before on the company's present site. It was a small business in the beginning; at the end of 1924 the balance in its property account was less than a quarter of a million dollars. That year the company's gross operating income totaled $1,414,430.68. Its only pipe lines, 4½ miles in all, ran from the 112,500-barrel storage tanks to the refinery. In '24 the refinery handled only 850,000 barrels of crude and for its entire operations it employed only 43 people.

In the beginning it had been Walker Hancock's idea that flush oil could be purchased, refined and shipped in tank cars to the various distributing centers of the west. It was on this fundamental principle, which he had seen work out profitably for Mid-Continent refiners, that he had founded the company. The idea, in those days, was sound; gasoline and lubricants were purchased by substantial distributors in tank-car lots and Hancock figured that if the refiners in the Middle West could profitably ship gasoline to the distant points of the Pacific West, then certainly a western refiner, adjacent to a heavily producing oil area, could ship into the markets close at hand at an even greater profit. Basically Hancock's judgment was right; there is little doubt that if production had held up at Santa Fe Springs, Signal Hill and Huntington Beach the tiny company would have met with immediate success. But Hancock's plan had been based on low-priced crude. At the time the company was formed he had had every right to count on an inexpensive source of supply, but the delays of refinery construction lengthened what should have been at most a year's struggle into a five-year battle to exist.

That the company was able to keep its head above water during that half decade is remarkable in itself; by all odds it was headed for failure. More remarkable still is the fact that not only did the company survive during those years from 1924 to 1929 but it actually added substantially to its holdings.

But in 1927 the company was suddenly obliged to change its entire mode of operation, for the plan that Hancock had adopted five years before met a serious snag. Up to that time freight rates had been advantageous to the little Long Beach refining company; it had been able to compete more or less successfully in its own territory with the refiners of the Mid-Continent. Through a sudden change in rate structures shippers from the Middle West were able to spot oil cars on the spur tracks of western distributors, just

beyond the borders of California, at as low a rate as the California companies. With Mid-Continent crude at a lower price than western crude, Hancock and other coast refiners were placed in a position where they could not compete, even in their own markets.

Production Plans

Thus, the Hancock Oil Co. came to the crossroads and all the signs pointed toward integration. Walker Hancock and Will Reid met the decision squarely; they realized that if their newly-named company was to continue it must enter the expensive and dangerous fields of production and marketing. As they momentarily paused to review the progress their company had made from the warm summer day in 1922 to the close of the present fiscal year on July 31, 1927, they had cause to feel pride in their accomplishments. Despite the set-backs and reverses they had met, the curve of growth had risen steadily upward. Their company was by no means prosperous but the dire things predicted by others in the oil industry had never come to pass. The property account now totaled nearly half a million dollars, twice that of three years before. The company's gross income for the year ending December 31, 1926, had been $3,479,218.12, two and a half times greater than the income of 1924. The refinery capacity had been doubled and that year almost one million barrels of crude had been refined at the enlarged and modernized plant.

The future was still uncertain, but the two men who had brought their company through the crawling and toddling stages of babyhood now had high hopes that their growing infant could stand on its own two feet in the fields of production and marketing.

The next installment of this story of the Hancock Oil Co. will appear in the next issue of the California Oil World.

Bureau Of Mines Shows July Demand 743,340 Daily

Bureau's figures give total production, including natural gasoline, as 705,273 bbls. daily, 34,908 bbls. less than demand. Discrepancy between A. P. I. and Bureau figures not explained.

According to "The Petroleum Situation in the Pacific Coast Territory," issued by the U. S. Bureau of Mines, daily production of oil, including a daily average of 41,537 bbls. of natural gasoline and liquefied petroleum gas, averaged 705,273 bbls. during July, while total demand for all products averaged 743,340 bbls., making a daily shortage of 34,908 bbls.

The Bureau also shows a total reduction of 1,082,178 bbls. in storage during July, which is 399,424 bbls. less than the A.P.I. 1,481,572-bbl. stock withdrawal, the discrepancy not being explained.

Of the demand shown by the Bureau, 469,401 bbls. was domestic, including shipments to Alaska and Hawaii and rail shipments to points outside the Pacific Coast territory; 154,691 bbls. went to Pacific foreign terminals, including the Canal Zone; 44,011 bbls. went to Atlantic foreign terminals; 16,520 bbls. were shipped in intercoastal trade. These shipments, added to domestic demand, and giving due weight to unexplained losses of 30,807 bbls. daily, bring total demand to 743,340 bbls. per day.

Because of the different ways in which stocks are classified by the A.P.I. and the Bureau of Mines, it is impossible to make any comparison between the two except as to total stocks. The Bureau shows a total of 125,006,769 bbls. in storage on July 31, while the A.P.I. shows 123,238,339 bbls. in storage on the same date. The A.P.I. figure is 1,768,430 bbls. less than that shown by the Bureau, with no apparent explanation of the discrepancy. Making the comparison even more impossible, the Bureau shows 3,482,355 bbls. as being in storage "outside continental U. S., including non-contiguous U. S. territories," and 131,093 bbls. as being in storage in the U. S. but outside the Pacific Coast territory. The A.P.I. figures purport to show storage figures only for the Pacific Coast territory, hence the comparison becomes lost when the Bureau makes no distinction as to how much storage is held in Pacific Coast territory but outside the continental U. S., the Hawaiian Islands falling in this classification.

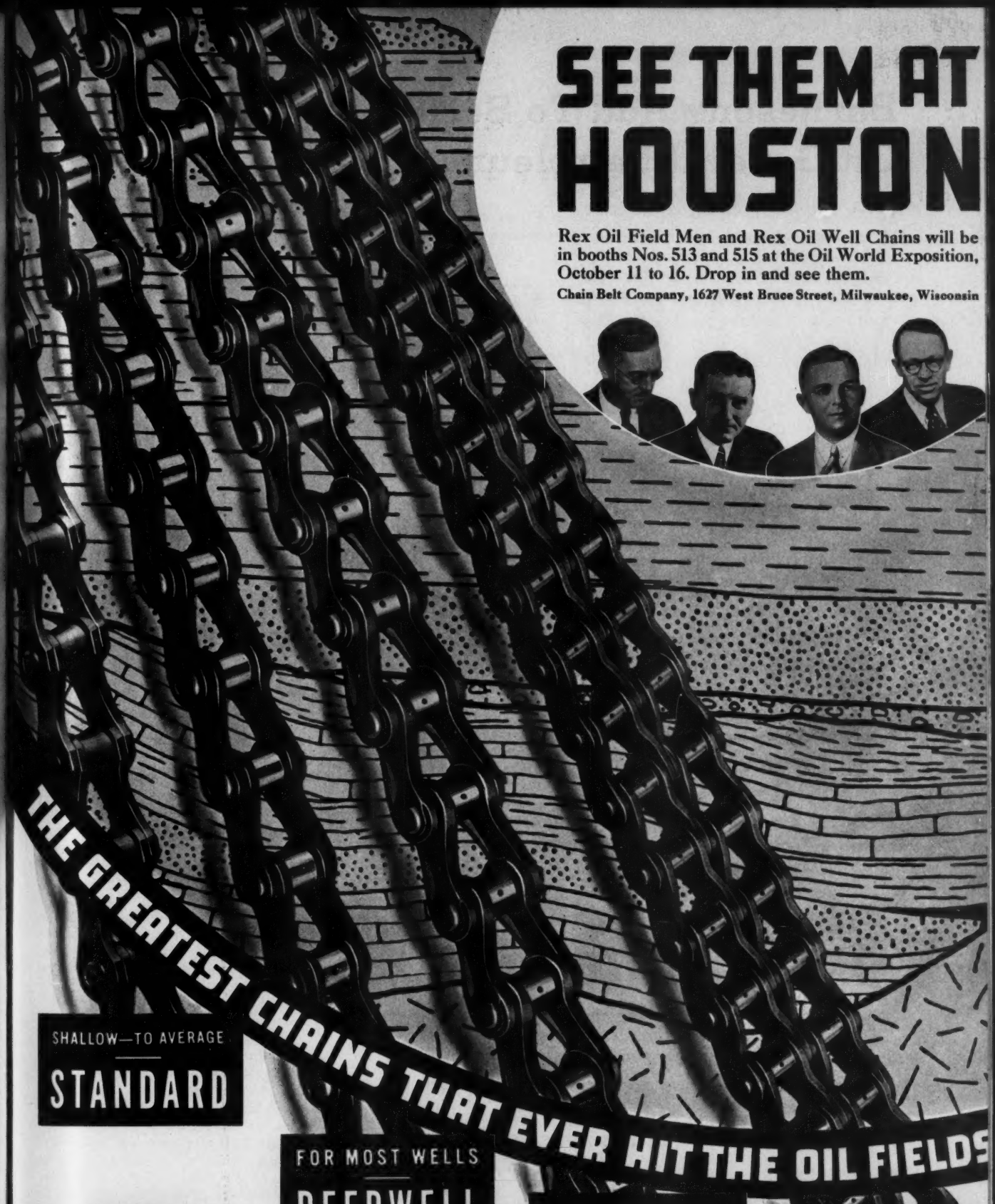
Crude petroleum production during July remained at the June level of 664,000 bbls. daily, while runs to stills decreased 9000 daily to 577,000, and shipments increased 6000 daily to 56,000. A cargo of crude was shipped to the Atlantic Coast for the first time since August, 1929. Stocks decreased 10,000 bbls. daily during the month and amounted to 32,432,000 bbls. During the first seven months of 1937, the excess of production over runs to stills plus shipments was 41,000 bbls. daily as compared to 31,000 in 1936, production having increased from 591,000 daily to 626,000 daily, while runs to stills plus shipments increased from 560,000 daily to 585,000.

Domestic gasoline demand of 181,000 bbls. daily broke the record of 177,000 daily established last month and shipments also increased substantially from 54,000 to 75,000 bbls. daily, so that total gasoline demand approached the high levels reached in 1929 and 1930, and greatly exceeded any figures for recent years. As production increased only slightly, from 211,000 to 216,000 bbls. daily, there was a decrease of 44,000 bbls. daily in stocks, bringing them down to 13,169,000 bbls., which is 257,000 under July, 1936, stocks.

SEE THEM AT HOUSTON

Rex Oil Field Men and Rex Oil Well Chains will be in booths Nos. 513 and 515 at the Oil World Exposition, October 11 to 16. Drop in and see them.

Chain Belt Company, 1627 West Bruce Street, Milwaukee, Wisconsin



THE GREATEST CHAINS THAT EVER HIT THE OIL FIELDS

SHALLOW—TO AVERAGE
STANDARD

FOR MOST WELLS
DEEPWELL

FOR THE DEEPEST
CHAMPION

DEEPEST AND FASTEST
UNIVERSAL

REX CHABELCO

CHAIN BELT COMPANY *of Milwaukee*

Barnesons Add To Series On General Petroleum Corp.

In connection with the recent historical series on the General Petroleum Corp. which appeared in the California Oil World during July and August, the publishers have received two interesting and informative letters—one from Captain John Barneson and one from Lionel Barneson.

Captain John Barneson's letter follows in full:

"I have read with interest your eulogistic account of my connection with the oil industry and particularly of my connection with the upbuilding of General Petroleum Corporation. There are, however, a few errors that I would like to correct; hence this letter, which I trust you will find space for in your next issue.

"The **George Thompson** which I commanded from 1885 to 1890, and the **Woolahra** commanded by my father for twenty-three years, were both owned by Messrs. Cowlishaw Bros. of Sydney, N. S. W. Australia, and as through the kindness of this firm, we were permitted to carry our families with us, they came to be known as 'family ships,' which I presume led to the error.

"I retired from the sea in 1890 and engaged in the shipping business on Puget Sound.

"I was appointed commanding officer of the **U.S.S. Arizona** by Colonel Oscar F. Long in 1898.

"I first had the pleasure of meeting Admiral Dewey when I arrived in Manila commanding the **Arizona.** On my way down the Luzon Coast on a fine afternoon, I segregated all the Navy mail, of which there was a large quantity, into bags, with the name of each ship plainly marked. I placed these in the ship's life-boats. We anchored in Manila Bay at 3 a.m. I immediately had the boats lowered into the water, and with steam on the pinnace, towed them to the different Men of War. Thus I had all the mail delivered at 5 a.m.

"In the forenoon the admiral's aide came on board to request me to call on the flagship. I there received the admiral's commendation. Had the pleasure also of meeting Captains Lamberton and Dridley. I had five hundred tons of navy stores on hand; and the admiral was anxious to know when they might expect to receive them; he said they were badly needed. It was then Monday afternoon. I said 'about Thursday.' He smiled and said to the two captains, 'He is an optimist—and does not know the Army regulations.' I said to the admiral, 'You give me orders to deliver your goods direct and I will have them there then,' and I did.

"I was again invited on the flagship. They had the band play and I drank a glass of champagne with the admiral and the two captains.

"Years afterwards I met Admiral Dewey in Washington, D. C., and he proposed me for membership in the Metropolitan Club, of which I am still a member.

"The credit for the Coalinga-Monterey pipe line belongs to Captain William Matson. I was simply one of the assistants with George Cameron and Al Guiberson. It was the knowledge gained during my connection with this work which convinced me that the pipe line from the Midway field to Los Angeles was feasible and necessary; and in connection with this latter work great credit is due to the late Rae E. Maynard and his corps of able assistants; one of whom, E. L. Adams, is still operating the line. You have already given credit in your articles to the other members of the company, without all of whose help I could have done nothing."

Lionel Barneson's letter sheds new light on the subject of the first oil-burning vessel, saying in part:

"There is another story regarding the captain's activities in which I think you would be interested. Shortly after the captain went into the oil business he approached President Cannon of the Pacific Coast Steamship Co. and asked if he would try burning fuel oil in one of his ships. Mr. Cannon advised him that he did not care to take the risk, as Pacific Coast Steamship boats were passenger boats. He then approached General Long and asked if he would not try it in the army transports. General Long agreed, provided he could get permission from Washington. The captain went to Washington and saw the admiral in charge of purchases and supplies, but was unable to convince him that fuel oil was safe. The admiral asked him what would happen if a shell were to explode in the bunkers. The captain answered that the boat would probably sink, as it would with coal, however not quite as fast. The captain then returned to the Coast and took the matter up with Captain Matson, who agreed to try burning fuel oil in the **Enterprise.** This boat was, as far as I know, the first oil burning vessel in the world."

BUDA

OIL FIELD POWER

FROM THE SHOPS of BUDA

Sold and Serviced by

PRODUCTION EQUIPMENT COMPANY

TELEPHONE ADAMS 5148

651 EAST GAGE AVE., LOS ANGELES, CALIFORNIA

• *Service Shops* •

R. W. "DICK" PROBST
BAKERSFIELD, CALIF.

3105 CHERRY AVE.
SIGNAL HILL, CALIF.

The House of V Belts and Drives

THE DRILL PIPE GOES 'ROUND -AND 'ROUND

Like the music—a drilling bit can do strange things if it is not properly controlled. That's one reason why operators have found that an Alexander Anderson, Inc., oriented survey is a mighty profitable investment. Sending a hole straight to the sands, preventing out of lease drifting, reducing possibility of twist-offs and keeping production pumping costs down, are all part of the results of controlled drilling as supervised by ANDERSON.

Anderson instruments and service are available through four field branches. For information and service, telephone the office nearest you...Fullerton 558...Bakersfield 3773-J...Long Beach 429-96...Santa Barbara 241-76.

AND COMES OUT HERE !

1. Anderson Standard Oriented Survey provides a complete record of inclination and direction of a well throughout its entire depth in cased or in open hole. The instruments are 3½" and 4" O.D. and are run on drill pipe or tubing.

2. Anderson Standard Magnetic Survey Instrument secures a series of photographic readings of both inclination and direction in open holes. The 1½", 3¼" and 3½" O.D. instruments are run on sand line or from Anderson hoist-equipped trucks.

3. Anderson Photo-Record Magnetic Single Shot Survey Instrument makes a direct-reading photographic record of inclination and direction on a metal-rimmed disc. The large diameter instrument is 3¼" O.D. and is run in open hole on sand line or from hoist-equipped trucks. Small diameter (2¼", 2" and 1½" O.D.) Photo-Record Magnetic Single Shot Survey instruments are also available for use with wire line coring equipment.

4. Anderson Go-Devil, 1¼" or 1½" O.D. is dropped into the drill pipe to measure inclination. The accuracy of this instrument is within fifteen minutes.

Alexander Anderson Inc.

Offices and Laboratories, Fullerton, California

DIVISION OF LANE-WELLS CO.

Complete Oil Well Surveys • Lewis Knuckle Joints • Anderson Bits
Kinsbach Whipstocks and Mills

Fremming Labor Day Talk Tells Aims Of Oil Union

Speaker tells of inevitability of C. I. O. type of labor organization and lays blame for its inability to keep its workers in line on past practices of management.

The following is an excerpt from a Labor Day speech given by Harvey C. Fremming, president of the Oil Workers International Union, at the Frontier Fiesta at Fort Worth, Tex. In view of the fact that the Oil Workers Union is at present very active in California, and, with the arrival of an additional group of organizers will become even more active, there is considerable of interest in the speech, because in it the leader of the Oil Workers Union definitely shows his union's aims and beliefs.

We know that civilization is the product of human labor. But the permanence of civilization depends upon the diffusion of its benefits. It cannot flow on, unless the channel of its production is equalled by the capacities of its distributive streams. And we have come to know that, however much the continuance and poise of our social order may depend upon this balancing of economic processes, we cannot look to minds, controlled by habits of management up to now, for a solution of this problem. Only the workers have the adequate incentive, and the workers must develop the new capacities and intelligence required, for this task of coordinated self-control.

The point at which we stand today is not our goal. We dare not stand still here. For we have seen during the last seven years that the eminence which we have attained has been reached only upon a sort of scaffolding of the real structure, which is to make permanent the blessings and liberties of a civilization based upon the intelligent use of labor-saving machinery. We are at the turning point of history, right here in America. If reaction has its way, we shall see another decline of civilization. We must furnish the vanguard.

Development of the machine tool is only one of the factors in our unfolding social era. Indeed, the multiplication of the uses of the automatic machine makes compulsory the initiation of other improvements in the social and economic aspects of society. The combination and integration of many trades within one great industrial enterprise compels a new perspective of labor in its adaptation of organizational methods to problems of wages and hours of labor.

It is because of natural industrial forces resulting in overlapping with respect to trade or craft jurisdictions that have caused the need for industrial or vertical type of labor organization, and because the traditional craft group of the American Federation of Labor desires to maintain the same old archaic status that forced the formation of the Committee for Industrial Organization, of which the Oil Workers International Union is an integral part and its officers among its founders and staunch supporters.

C. I. O. Inevitable

The inception of the C. I. O. into the organization of industrial workers was the most inevitable thing that could come to industry. It has had its critics but it is here to stay as the only method that can deal with the new order of industrial economy.

We do not doubt that as a result of the application of these new principles of organization to the era of industry there will shortly take place not only a doubling but a triplication, a quadrupling of the ranks of the armies of organized labor.

Ability to read the printed word, in the daily press, the labor paper and the printed leaflet, together with access to the living messages vibrating over the radio throughout the nation, these have been the channels through which rays of educational light have been shed upon the whole problem and all the problems of the nation. The churning of the national population, taking place during the peaks of unemployment, by the wanderings of the workers, has brought about a degree of mutual understanding never before possible. The university courses of experience, offering post-graduate courses in the various schools of hard knocks, have done more than any number of ordinary college courses could possibly have done in the same length of time, to enlighten the minds of the American people.

That all this is simple fact now, is apparent to the simplest mind in the results of the last two national elections. **The workers are coming to see the relationship between their jobs and their citizenship, between their pay-roll—or the lack of it—and their ballots.** Out of this new understanding, and out of the new technique of organization of the workers, there will come a new skill in the use of their endowments as workers and as free American citi-

zens. With this new understanding, and the possibilities opened to them through the new voluntary discipline which they are now learning to impose upon themselves, there opens in America the promise of utilizing the blessings and possibilities of our machine civilization on a scale only dreamed of heretofore.

Defense of Contract

The contract of a labor organization is arrived at by collective bargaining. It is the agreement of the thousands of workers represented in the organization making it, and it is as binding as any other contract which helps to make of our civilized life a dependable set of relationships. **The refusal of many employers to permit the practice of collective bargaining has prevented millions of workers from developing within their own minds the consciousness that they must become responsible men and women, capable of being depended upon by each other, and therefore more secure in the fact that they could be mutually depended upon.**

Not until this consciousness of mutual dependability among the workers is permitted to develop, and is ripened into confidence in the organization which makes it possible, **have employers any right to expect the building up of a consciousness of responsibility on the part of their employees, for the keeping of agreements made on behalf of the workers through their labor union.** Playing fast and loose with labor unions, on the part of employers, is not calculated to make the workers feel that an agreement is of any value. The persistent intrusion of the company union, the use of spies and under-cover men, the activities of secret service operatives among the workers, all serve to undermine in the thoughts of the workers the idea that the employer can be depended upon for a square deal. The most natural reaction from that experience is not to make the employee feel that he is any more bound by his agreements than his boss. But here again, it is for the organizations of labor to set the pattern, since the employers, for the most part, will not do so. **They must begin within their own organization, by democratic methods selecting and controlling their own officials and representatives; building up within their own ranks standards of practice which can stand the test of daylight at any time, anywhere.**

The records of organized labor will compare favorably at any time right now, with the records of employers, in this respect of honest and aboveboard dealing. And it will follow, that the agreements of the successful labor organization will be kept, and can be depended upon, in this complicated system of industrial and commercial process.

85,000 Affected By Contracts

Contracts in effect today between the members of the Oil Workers International Union and the employers affect upwards of 85,000 workers, as a result, in part, of the intensive drive which has been under way during the past year, and which has more than doubled the membership of the organization.

We can see no reason why, in an orderly society, the upwards of 500,000 workers in the various divisions of the production, refining and distribution of petroleum products, should not all be included in a structure built of just such agreements as these. We know that such a condition would contribute greatly to that social security toward which we all yearn.

Seniority rights are among those which the Oil Workers International Union have been seeking to establish. They substitute, for the whims or personal prejudices of the foremen and supervisors of an industry, the claim of a worker to his job, based upon continuous, responsible and faithful service. The construction of a system of seniority rights has called for patient study, for firm insistence upon fairness, and for the backing of an organization of men who knew and understood what they had at stake in the matter. There is no doubt that as a result of this system, employers have benefited, in the quality of the personnel of their employees, and in the feeling of mutual security built up within the relations of employers and employees.

Other problems, calling for the services of experienced organizers and officials of the union, are those relating to vacations, over-time pay rates, sick pay and the like. The vacation adds to the margins of liberty of living, and when it carries with it vacation pay, it contributes greatly to the joy of living—and therefore, to the satisfaction of labor. None of these have been standardized throughout the industry; but the pattern is being gradually developed, in discussions with employers and in testing out tentative programs, and with increasing experience on both sides of the conference table we feel safe in saying that there is reasonable hope for continued improvement.

There are many years yet to come in the history of America. We sincerely hope that they may be years of peace, years of continuing accomplishments, years of constantly rising levels of life and standards of living, and years especially of increasing intelligence and mutual understanding among the people of our land.

Increasing intelligence can come only with increasing liberty, enlarged opportunity and resources for study and reading and association, expanding of the privileges of enlightened recreation. If the employers of labor do not understand this, if they continue to refuse to labor those things, the accomplishment of which are just a part of the cost of an expanding civilization and a continuing of the American ideal, then it is the duty of the organized labor movement to intelligently and forcefully drive home the lessons of these truths.

Standard Oil El Segundo Labor Case Before Board

Decision as to who will represent Standard employees at El Segundo not expected for two weeks. Board also to decide geographical unit of representation. Other oil labor cases few.

The Standard Oil Co. El Segundo labor representation case is now before the National Labor Relations Board in Washington, D. C., for decision, the decision not being expected for the next two or three weeks at the earliest.

The hearing was for more than one purpose. The petition to determine who was to represent the employees was filed with the Regional Labor Relations Board, headed by Dr. Towne Nylander, by the Oil Workers International Union, which in a sense thereby started the ball rolling. However, the hearings not only considered the matter of representation, but also brought out evidence to make it possible for the Labor Board to determine what geographical units the representation, once selected from among several A. F. of L. locals and the Oil Workers Union as well as the Standard Employees' Association, would include. In other words, the decision will determine who is to represent the employees, on the one hand, and on the other will determine whether these representatives will be effective for El Segundo alone, for the California operations of the company, or for its entire operations, no matter in what state, country, or geographical area they happen to be located in.

No information will be available until the Board makes its decision and announces it. Incidentally, the decision may either certify, from the evidence brought out at the hearing, a certain group as the bargaining representatives, or may order an election to determine this matter.

Other matters of oil labor interest now pending before the Regional Labor Relations Board at Los Angeles are relatively few, the total being only five cases, including the Standard case and one oil well supply company case, as well as one firm not directly connected with the oil business as it is generally thought of.

The latter case is that of the American Bitumuls Co., a manufacturer of road materials, in which the union has petitioned that it be designated the representative of the employees, and has also alleged the presence of a company union. The latter is in conflict with the Wagner Act, which specifically states that company unions, defined as associations or unions of employees which are either dominated by the company management, or have been favored by company management in one way or another, are contrary to the law.

In the St. Helens Petroleum Co. matter, the company employees have petitioned the Regional Labor Board, as the St. Helens Employees Association, to certify them as the bargaining agent for the employees.

Some time ago, the company management received a communication from H. C. Roberson, a well-puller, asking that the group be recognized as the bargaining agent for the employees. The management was not aware that the group had been organized to the extent that put it in a position to represent the employees, having completely kept out of the organization and formation of the group, and, upon receiving the communication, immediately conferred with the Regional Labor Board to determine what steps to pursue. The Board informed the association that it would be necessary for it to be certified as representative of the majority of the workers in the company, after which it would be in a position to bargain with the company management. At present, that is where the matter stands—the petition for certification is before the regional board, awaiting action.

The St. Helens management has acted throughout in accordance with advice of the regional board, and has stated that it would deal with any group certified by the board. The present case also includes the employees of the Kern River Oil Fields, Ltd., an affiliate of St. Helens.

The case involving the oil well supply company is one in which a union alleges that one of the Oil Well Manufacturing Co.'s employees was discharged because of union membership and activity. This type of case—discriminatory discharge—is strictly against the terms of the Wagner Act, and, if it is proved against any company, the Labor Relations Board may order the reinstatement of the employee, together with back pay for the time he has been out of employment. The board usually further orders that the practice be discontinued, and that union membership be made no detriment to the worker's status.

The Shell Oil Co. case, in which the company was ordered to meet and bargain with a group of five unions, is still postponed, at the request of the unions. The original meeting with the company management opened in August, and was postponed rather indefinitely to Sept. 6, but has not been reopened. The company, however, has complied in every respect with the orders issued by the Labor Board at Washington, the present postponement being directly attributable to the fact that the five unions cannot determine who should have jurisdiction.

In a case of this kind, it is sometimes necessary for the board to reenter and determine which of the unions, or how many of them, shall be represented in bargaining with the company management.

Speaking of STATISTICS

THERE were fifty-seven varieties of Pumping Units on the market (including many "make-shift" arrangements for lifting oil) the last time the statisticians took time out to count them.

But there is only one LUFKIN unit.

Lufkin pioneered geared reduction units for oil well pumping and has maintained leadership in this field by always furnishing the finest equipment that could be produced.

Modern, precision tools, marvels of mechanical science—plus skilled men with years of matured experience has produced a product considered the ultimate in pumping equipment by oil men everywhere.

Lufkin Units are manufactured in Lufkin, Texas, by the Lufkin Foundry & Machine Company . . .

Watch Lufkin!

and you'll see the parade of tomorrow's machinery today.

LOS ANGELES OFFICE
5959 So. Alameda. Phone LA 1201

BAKERSFIELD OFFICE
30th & M Sts. Phone 4448

LUFKIN PUMPING UNITS

R. P. McLaughlin
Chairman, Program Committee

R. C. Allen
President, A. I. M. M. E.

A. B. Parsons
Secretary, A. I. M. M. E.

Oil Division Of A. I. M. M. E. To Meet On October 1

Two technical sessions and informal dinner on program. Symposium on recent California developments scheduled.

Over 400 members of the petroleum division of the American Institute of Mining and Metallurgical Engineers will convene in an all day meeting in the Edison Building at Los Angeles Oct. 1.

The meeting will be divided into two technical sessions followed by an informal dinner in the evening. Program plans call for the presentation of interesting, practical, and scientific papers concerned with the petroleum industry, and an important feature will be a symposium of recent developments in California oil fields, presented by a number of men who have been actively connected with the new production areas.

The following fields, with the speakers who will tell of their recent development, will make up the subject matter of the symposium:

Santa Maria—Charles Reiter Canfield, Union Oil Co.

Wilmington—Ed Bartosh, Bankline Oil Co.

El Segundo—L. E. Porter, Richfield Oil Co.

Ten Sections—H. P. Wyatt, Shell Oil Co.

Greeley—W. P. Winham, Standard Oil Co.

Numerous technical papers on widely diverse phases of the petroleum industry will be presented, with the following tentative schedule arranged by the program committee:

"Heat Exchange as a Factor in the Design of Dehydration Equipment," by R. W. French, Continental Oil Co.

"Influence of Connate Water on Permeability of Sands to Oil," by Eldon N. Dunlap, Standard Oil Co.

"Some Considerations in the Selection and Installation of Gravel Pack for Oil Wells," by E. M. Wagner and C. J. Coberly, Kobe, Inc.

"The Effect of Pressure Upon the Viscosity of Air, Methane, and Two Natural Gases," by Dr. W. N. Lacey and Bruce Sage, California Institute of Technology.

"A Description of Pressure Drilling in Kettleman Hills and Effect Upon Initial Production Rates," Read Winterburn, U.P.RR. Co.

"Some New Conceptions of Petroleum Engineering," Dr. Stanley C. Herold, Consulting Geologist, Glendale.

The function of the Institute is to gather and disseminate valuable information pertaining to the petroleum industry. There are approximately 800 members residing in California, of whom 250 are actually engaged in the oil industry. John Herman, consulting chemist, is local president of the organization.

Plans for the Los Angeles meeting are under the direction of R. P. McLaughlin, associate chairman of the Institute's petroleum division, who is assisted by Ernest K. Parks, Standard Oil Co., program chairman; Emil Huguenin, of the State Division of Oil and Gas, entertainment chairman; and Mr. Herman, the local president of the organization.

J. C. Burks

The president of the California Natural Gasoline Association has been in the natural gasoline business for the past 15 years, all with the O. C. Field Gasoline Corp., of which he is at present vice-president and manager. Mr. Burks' technical education was obtained at Stanford and California Institute of Technology, from which he was graduated in chemical engineering in 1923.

Pres. J. C. Burks, O. C. Field Gasoline Corp. V-Pres. H. R. Linhoff, Richfield Oil Corp. Sec.-Treas. Wallace McIlhany, 510 W. 6th, L.A.

DIRECTORS

*** Executive Committee Member**

L. L. Aubert
Bankline-Norwalk Co.

A. H. Bell
Continental Oil Co.

A. H. Bradford
West Coast Refining Co.

*J. C. Burks
O. C. Field Gasoline Corp.

*J. A. Campbell
Lomita Gasoline Corp.

L. V. Cassaday
Lomita Gasoline Corp.

F. E. Coyle
Associated Oil Co.

F. E. Davie
Shell Oil Co.

Earle Derby
Standard Oil Co.

*H. L. Eggleston
Gilmore Oil Co.

O. C. Field
O. C. Field Gasoline Corp.

*P. E. Fluor
Fluor Corp.

J. P. Gasser
Seaboard Corp. of Dela.

*R. D. Gibbs
Union Cil Co.

*J. C. Gilbert
Barnsdall Oil Co.

R. H. Green
Signal Oil Co.

A. S. Hayes
Bell & Loffland, Inc.

R. E. Haylett
Union Oil Co.

*R. D. Heath
Signal Oil Co.

J. R. Hoffman
Smith-Booth-Usher Co.

S. F. Magor
Superior Oil Co.

*W. A. Kirk
California Southern Oil Co.

*B. A. Koehler
Pacific Western Oil Co.

W. H. Kraft
Honolulu Oil Corp.

*E. J. Lange
Associated Oil Co.

*H. R. Linhoff
Richfield Oil Corp.

CNGA

September, 1937

This section, a regular monthly feature of the California Oil World, is devoted to the activities of the California Natural Gasoline Association. The California Oil World is the exclusive official publication of the California Natural Gasoline Association, so designated by vote of the Association Executive Committee in a meeting on August 19th, 1937

DIRECTORS

*** Executive Committee Member**

R. S. Lytle
Los Nietos Prod. & Refining Co.

*P. S. Magruder
General Petroleum Corp.

*William Moeller, Jr.
Southern California Gas Co.

*H. E. Moulton
C. C. M. O. Co.

*N. H. Mull
The Texas Co.

John Roger
Ingersoll-Rand Co.

W. D. Roper
Western States Gasoline Corp.

A. E. Schiltz
Del Rey Oil & Gas Co.

T. K. M. Smith
Industrial Fuel Supply Co.

W. D. Smith
Wilshire Oil Co.

*T. L. Taggart
Standard Oil Co.

*R. E. Tulin
Shell Oil Co.

Henry N. Wade
Parkhill-Wade, Inc.

R. E. Wells
Richfield Oil Corp.

*R. C. Wheeler
General Petroleum Corp.

W. M. Young
The Texas Co.

Taft Chapter Chairman

*Russell D. Wood
Honolulu Oil Corp.

General Committee Chairmen

Programs: B. D. Balthis
Natural Gas Equipment Co.

Entertainment: Jim Reed
Cooper-Bessemer Corp.

Membership: P. L. Armstrong
Union Steam Pump Co.

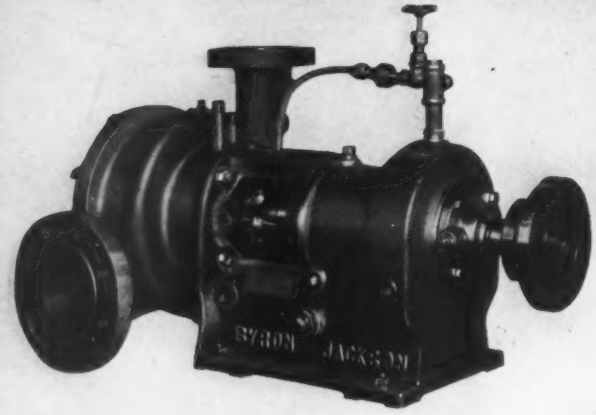
Technical: C. D. Gard
Union Oil Co.

Publicity: Dick Sneddon
Union Oil Co.

Advisory: H. R. Linhoff
Richfield Oil Corp.

Finance & Budget: H. E. Moulton
C. C. M. O. Co.

Auditing: H. A. Barrett
O. C. Field Gasoline Corp.



CORRECT DESIGN FOR EACH FIELD

Low Capacity

Low and Medium Heads
15 to 800 GALLONS PER MINUTE

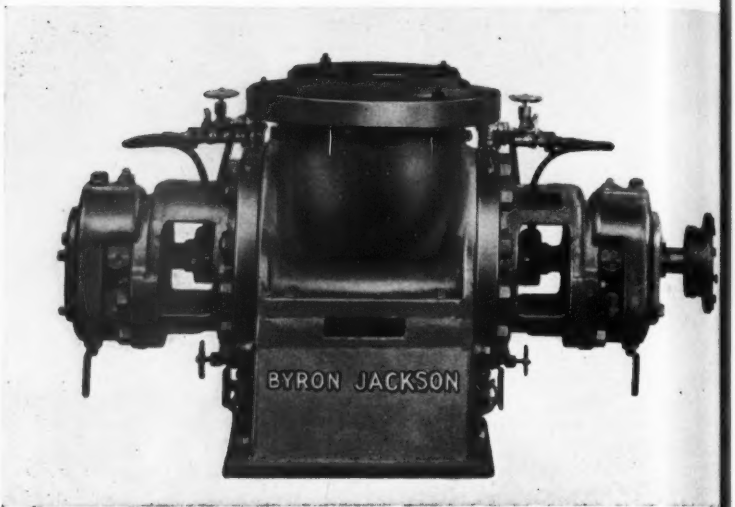
SINGLE STAGE SINGLE SUCTION PUMP

- Maximum simplicity.
- Affords maximum possible clear openings through waterways.
- No bearings to remove in dismantling pump.
- Concentric support on centerline permits expansion without misalignment.
- Case and cover sealed by single circular gasket in recessed seat.
- Nozzles cast integral with case permit disassembly without disturbing piping.
- Nozzle arrangement is vertical, providing for simple piping and eliminating vapor binding in the suction.
- One stuffing box under slight pressure even on vacuum service.
- Low bearing loads due to pressure equalization on back of impellers by radial ribs.
- Field of application: 15 to 800 gallons per minute at temperatures up to 800 degrees F., against heads of 75 to 400 feet.

Complete information on all Byron Jackson Pumps will be sent on request.

Since 1872

BYRON JACKSON CO.
and subsidiary
Factories at: Berkeley and Los Angeles, California
Bethlehem, Pennsylvania
Sales offices: New York, Salt Lake City, Fort Worth.



High Capacity

Low and Medium Heads
800 TO 3000 GALLONS PER MINUTE

SINGLE STAGE DOUBLE SUCTION PUMP

- Center support under nozzles eliminates pipe strains with consequent misalignment at high temperatures.
- Case and cover sealed by two circular gaskets in recessed seats, only one of which is broken to dismantle pump.
- Nozzles cast integral with case permit disassembly without disturbing piping.
- Nozzle arrangement is vertical, providing for simple piping and eliminating vapor binding in the suction.
- Two stuffing boxes at suction pressure.
- Negligible bearing loads.
- Field of application: 800 to 3000 gallons per minute, at temperatures up to 800 degrees F., against heads of 250 to 800 feet.

BYRON JACKSON

CENTRIFUGAL PUMPS FOR EVERY SERVICE

Burks Tells Aims Of
California Natural Gasoline Association
To Taft Chapter

At the request of Russell Wood, chairman of the Taft Chapter of the C.N.G.A., J. C. Burks, president of the Association, made the following talk at the chapter's meeting on Sept. 16. Mr. Wood's request also included a list of specific questions as to the aims and purposes of the association, which Mr. Burks endeavored to answer. The talk briefly tells of the purpose of the organization, describes the work it has done and is now doing, outlines its methods of carrying on its work, and tells of the reasons for its original organization.

Mr. Burks was accompanied from Los Angeles by Wallace McIlhany, secretary of the association.—Editor.

By J. C. Burks
President, C.N.G.A.

The desire to exchange ideas and eliminate costly duplication of research and development work prompted a small group of men representing companies operating natural gasoline plants in the Signal Hill field to organize in 1925 the California Natural Gasoline Association. The first general meeting was held Dec. 2, 1925, with about forty members present from which modest beginning membership grew rapidly, and with an unusual display of cooperations between members and their affiliated companies, work of a technical nature got under way. For some time there had been an urgent need for standardization of methods of metering and testing of natural gas for gasoline content, consequently these two problems were the first to receive attention. A gas testing and metering committee was appointed and in 1928 the association's first contribution to the industry made its appearance in Association Bulletin TS-281 "Procedure for Charcoal Test for Determination of Gasoline Content of Natural Gas", and shortly thereafter Bulletin TS-282 was published which did a great deal to standardize metering practice through the establishment of standards for temperature and pressure measurement. About this time a relatively simple method of fractional analysis of natural gas and gasoline made its appearance. As it came into general use in the industry it became apparent that not only the analytical procedure but the apparatus itself would have to be standardized before accurate duplication of results could be made by different operators. A committee on Fundamental Analysis was appointed and its work represented in my opinion one of the association's outstanding examples of cooperative research. Several companies contributed their laboratory equipment and personnel to this work and by a systematic program of analysis on identical samples an extremely satisfactory column was developed. The results of this research and the standard procedure that followed were published in Bulletin TS-311 under the title of 'Tentative Standard Method of Analysis of Natural Gasoline by Fractional Distillation".

In the following years through a comprehensive program of standardization the Technical Committees of the Association have made the following contribution to the natural gasoline industry:-

TS-281—Procedure for the Charcoal Test for the Determination of Gasoline Content of Natural Gas.

TS-282—Absolute Pressure for Natural Gas Measurement (Revised April, 1929).

TS-311—Tentative Standard Method for Analysis of Natural Gasoline by Fractional Distillation.

TS-321—Tentative Standard Method for Analysis of Natural Gas by Fractional Distillation.

TS-322—Tentative Standard Procedure for Sampling Natural Gas and Gasoline.

TS-341—Tentative Standard Method for Gauging Natural Gasoline in Pressure Storage.

TS-342—Tentative Standard Procedure for Sampling Natural Gas and Gasoline (A revision of TS-322).

TS-343—Standard Procedures for Testing Lean Absorption Oil.

TS-351—Procedure for the Charcoal Test for the Determination of the Gasoline Content of Natural Gas (A revision of TS-281).

TS-352—Tentative Standard Method of Test for the Reid Vapor Pressure of Natural Gasoline.

TS-353—Tentative Standard Procedure for the Measurement of Natural Gas with Orifice Meters. (A revision of S-282). This Bulletin was prepared and sponsored jointly by the Pacific Coast Gas Association, the Southern California Meter Association and the California Natural Gasoline Association.

TS-354—Tentative Standards for the Determination of Super Expansibility Factors in High Pressure Gas Measurement.

At the present time the work of the Technical Committee of the Association is being conducted by eleven problem committees who are either revising and keeping up to date procedures that have been developed in the past or are working on entirely new problems. These several working committees are as follows:

1. Gas Measurement
2. Fractional Analysis
3. Gasoline Metering
4. Truck Gauging
5. Physical Constants
6. Charcoal Test
7. Sample Containers
8. Safety
9. Liquefied Gas
10. Revision of Bulletins
11. Gas Engines and Compressors

While these few facts regarding the Association give a record of its outstanding technical achievements, they by no means indicate its entire scope and purpose. During the entire twelve years of its existence meetings have been held monthly at which technical papers followed by general discussion are presented. To give some idea of the ground covered by these programs and as an indication of their importance from an educational standpoint let me review briefly:

On plant and equipment design there have been presented original papers on design of vacuum and pressure vessels, design and operation of high pressure fractionating equipment, fundamentals of simple steam distillation and steam still design, fundamentals of heat exchanger design, the rating and comparison of performance of oil coolers and an outstanding contribution in a technical analysis of the absorption process that, although presented in 1931, is still used as the basis of much of the design in modern absorption equipment.

On plant operation, articles have been presented on characteristics of absorption oils, boiler plant operation and maintenance, use of gas engine indicators and compressor operations and maintenance, the fundamentals of design of gas gathering systems, cooling tower maintenance and many other subjects of direct value to the industry.

Such subjects as the relative economic position of the natural gasoline industry, oil production practice and its effect on natural gasoline production and the refiner's viewpoint on natural gasoline as a factor in the production of motor fuel are but a few of the important economic problems discussed, while contributions of a pure research nature have been those giving accurate and basic data on physical constants of hydrocarbons and vapor pressures of pure hydrocarbons, gasoline, and complex mixtures. Although these subjects comprise only a few of the more important ones presented, they indicate very clearly that any individual interested in the natural gasoline business or its related industries has available a means of keeping informed and down to date on its progress that can be acquired only through close contact and personal interest in this association and its activities.

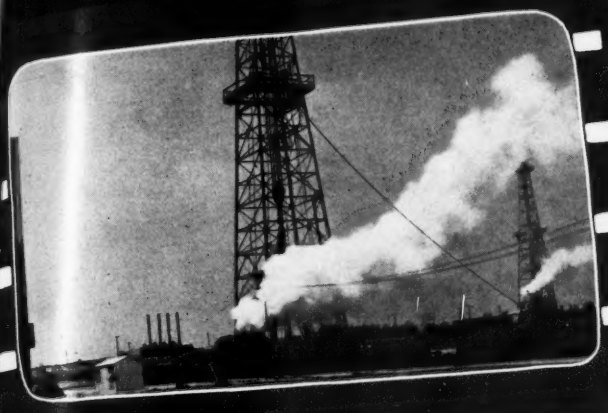
In conclusion, may I bring out what in my opinion is a function of the California Natural Gasoline Association equally as important as anything mentioned heretofore. In our respective jobs whatever they may be there is a natural tendency to too narrowly groove our activities. Membership and active participation in an organization embracing your particular industry provides an opportunity to extend acquaintanceship, to keep in touch with progress in your field and through active support of your association to broaden its influence and thus directly increase the usefulness of the industry itself.

NATURAL GAS EQUIPMENT

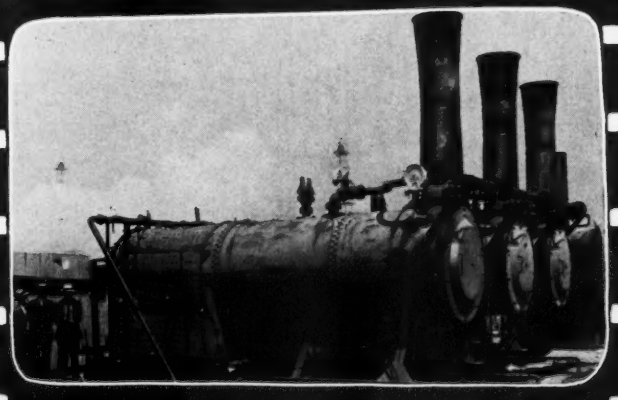
presents

THE BOILERTROL

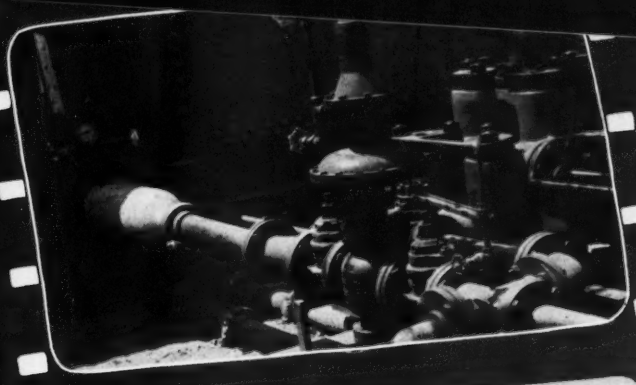
THE NEW N.G.E. TYPE G-1000 REGULATOR
FOR AUTOMATICALLY FIRING
GAS FIRED OIL FIELD BOILERS



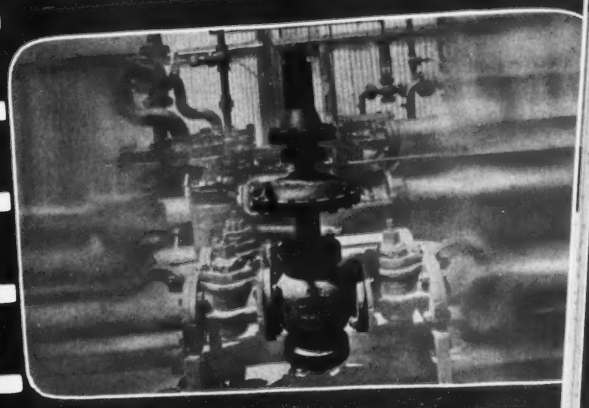
Every drilling contractor and oil company recognizes that increased demands for steam brings the oil field boiler plant to a position of utmost importance in drilling operations. To increase the efficiency of these plants to even a greater extent, Natural Gas Equipment has developed and successfully proved the new N.G.E. G-1000 Boilertrol Regulator.



The design and development of the G-1000 Boilertrol Regulator is a result of every consideration for steam demands made on modern oil field boilers. Modern boiler plants must supply plenty of steam under constant pressure. And the modern boiler plant is no more efficient than the equipment that supplies its fuel.



Therefore, of major importance in supplying steam is the assurance of automatic and accurate fuel control. Here is where the N.G.E. Boilertrol Regulator fits into the picture. The Boilertrol is a two-in-one Regulator; it simultaneously accomplishes the services of a reducing regulator and a gas-fuel regulator.



The Boilertrol Regulator accurately and automatically compensates for the most extreme changes in gas supply pressure as well as furnishing the boilers with varying fuel supply in accordance with steam demands upon the boilers. Details of its engineering and its application are available on request. Look to the pioneers for continued leadership.

NATURAL GAS EQUIPMENT
INCORPORATED

PETROLEUM SECURITIES BLDG.
LOS ANGELES

1123 HARRISON STREET
SAN FRANCISCO

811 STERLING BLDG. • • HOUSTON, TEXAS

MID-CONTINENT DISTRIBUTORS:
Houston Oil Field Material Co., Houston, Texas
Webster Engineering Company, Tulsa, Oklahoma

EXPORT REPRESENTATIVES:
Petroleum Machinery Corporation, 30 Rockefeller Plaza, New York City, N. Y.

Air Conditioning Topic Of Speaker At C. N. G. A.

Five basic questions on air conditioning receive consideration.

By J. F. Kooistra

The following paper was presented by Mr. Kooistra, of the Carrier Corp., at the regular September meeting of the C.N.G.A.

Air conditioning is the topic of this evening's discussion and, although I assume that most of you are well acquainted with the general application of air conditioning for industrial processes and human comfort, I believe it would be fitting to treat in this paper the following five basic questions on air conditioning and then, if time permits, I will attempt to describe some of the recent and outstanding air conditioning installations made in the U. S. A. and abroad.

First: What is the history of air conditioning?

Second: Why air conditioning?

Third: What is the future of air conditioning?

Fourth: What is air conditioning?

Fifth: What does an air conditioning system consist of?

First, then, what is the history of air conditioning? Some 70 odd years ago, Mark Twain wrote "The weather is something everybody talks about, but nobody does anything about it". Not very long after these words were written, a young engineer by the name of Willis H. Carrier, actually did something about this weather of ours. Mr. Carrier's interest in the weather came through an inquiry from a lithographing manufacturer, who found that the changes in atmospheric conditions interfered with his factory production and wanted to know if it would be possible to hold the dimensions of his printing paper uniform. This was in the year 1902. On account of this inquiry a program of research was begun on the problem of removing moisture from the air and not until 1906, four years later, was this process perfected so that a ready control of year-around air conditioning was made possible.

The textile industry readily accepted the advantages of controlled humidity to improve working conditions in their mills. Since yarn and fabrics, like paper, are very hygroscopic, textile manufacturers also had experienced difficulties in manufacturing their products under various climatic conditions and were badly in need of some means to control production.

During the following 10 years, many installations of controlled weather were made, for industrial processes, for lithographing companies, textile manufacturers, cigar manufacturers, mills, and factories of various kinds. During these years, the term "air conditioning" came into use. Stewart W. Cramer, who was working on conditioning for textile mills, termed the process of moisture control in air as air conditioning. Mr. Cramer is really the originator of the name Air Conditioning.

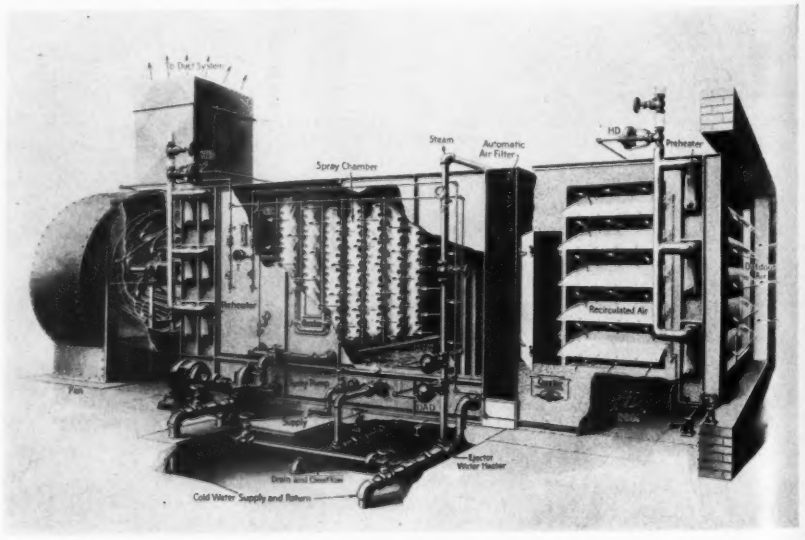
In 1911, Mr. W. H. Carrier presented to the American Society of Heating and Ventilating Engineers, a paper describing his now famous Rational Psychometric formulae. These basic laws of atmospheric air, as presented by Mr. Carrier, have been the foundation upon which the entire air conditioning industry has been built. During this same year Mr. Carrier founded the Carrier Engineering Company, an organization to further the air conditioning science and today this company has grown from a small organization to the present internationally known Carrier Corporation.

In the foregoing, I have attempted to give you a short history of air conditioning and have attempted to prove to you that air conditioning was not wished on the public, but was a development growing out of the search by manufacturers to control weather conditions for manufacturing purposes. **This answers, in part, the second question, "Why Air Conditioning."**

As mentioned previously, between the years 1906 and 1916, a great deal of work was done in air conditioning for industrial processes, but it was not until about 1916 that it was attempted to air condition for comfort. This was really the first attempt at cooling for human comfort and began with air conditioning for theatres. Success was not too good until 1922, when the first modern type of air conditioning system was installed in a theatre in Los Angeles. After this first practical demonstration was made to show the possibilities of air conditioning, it spread rapidly, and today a cooling system is as much a necessity in a theatre as a heating plant.

Department stores were next to accept air conditioning. Hudson's Department Store in Detroit was the first to install a system of air conditioning and, today, this store has the largest refrigeration plant in the world. Approximately 5000 tons of refrigeration are used to cool the air supplied to this building. Many department stores all over the country followed suit because it soon developed that air conditioning paid for itself. A good illustration is the case of the first theatre in New York equipped with air conditioning in 1925.

A typical Carrier central station air conditioning unit, showing the spray chamber, the automatically controlled air dampers, the heaters, the auxiliary air filters, and the centrifugal fan which delivers the conditioned air to the duct system.



This installation paid for itself in the first three months of operation. Theatre operators soon came to the conclusion that money spent for air conditioning was a paying investment and department store owners came to the same conclusion, because the public began to demand air conditioning just as the textile manufacturer demanded controlled weather.

During the predepression years, and the years 1929 to 1932, air conditioning had not become general. It was entirely confined to large buildings, and installations were made only when they paid for themselves. The public, becoming more and more adapted to air conditioning in public places soon began to demand air conditioning in the smaller stores, cafes, restaurants, hotels, office buildings, and other places where large numbers of people congregate. This demand was the cause for rapid development of unitary equipment which could be installed cheaply and easily in small stores. The development of unitary equipment has been the chief reason for the rapid growth of the air conditioning industry and, of course, the public demand is the moving force behind the progress made in this industry. The fact that air conditioning is today a **public issue** comes home to one when passing a billboard advertising the railroads, especially the Southern Pacific train—"Ride in comfort, air conditioned throughout." I believe that air conditioning in railroad cars has added considerably to the public acceptance of air conditioning. **This is the answer to the question "Why Air Conditioning"?**

The next development in air conditioning, we predict, will be in air conditioning for personal comfort, but as a luxury. I have reference to air conditioning for homes. This phase of the industry is only in its infancy, but eventually home air conditioning will be accepted just like central heating is generally accepted today. This home air conditioning will build the industry to enormous proportions. In 1916, one million dollars worth of air conditioning was sold. Today air conditioning is a forty million dollar industry and the prediction is that by 1945 this industry will have grown to a 350 million giant and possibly a billion dollars by 1950. **Here is the future of air conditioning** as seen by leaders of the industry.

We have seen in the foregoing that industrial air conditioning is a requirement. We have also tried to convey the idea that the public now wants air conditioning for comfort, and I believe that the following illustration will amplify the point. It may not apply directly to our climate, but will apply in general to any climate in the United States. In the winter time, we expect to maintain a uniform temperature of approximately 72° F. in our homes. If the temperature drops to 68° F. we are dissatisfied and hurry to adjust the heating apparatus. If the temperature rises to 76° F. we just can't stand it and turn the steam off. In other words, we tolerate probably a variation of plus or minus 4° in temperature. Years ago, we did not mind it if the temperature close to the stove was 90° F. while close to the windows we would experience a temperature of 60° F. We simply tried to find the most comfortable spot. The heating industry has educated us to appreciate equalized temperature and today a 4° variation is all we tolerate.

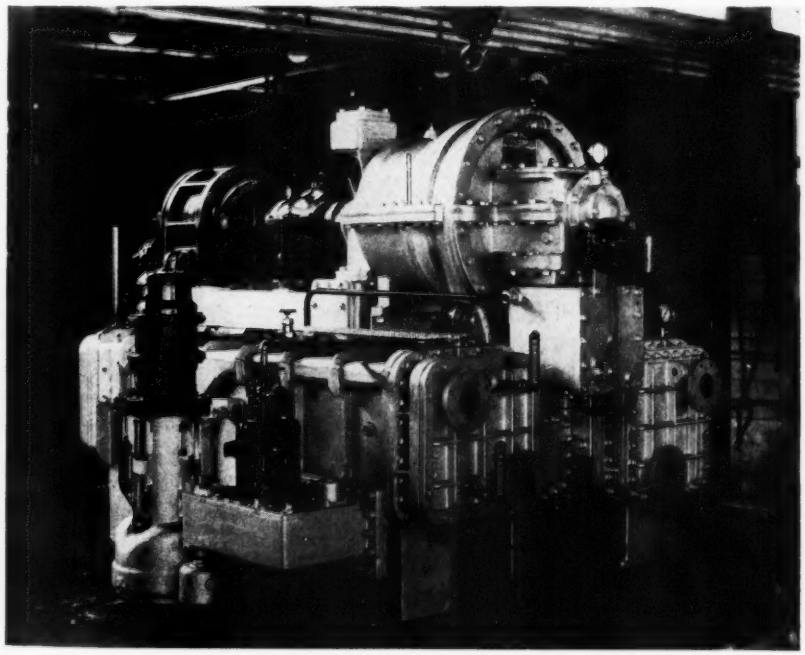
What happens during the summer time? Temperatures in homes and offices rise to 90°, sometimes 100° F., and we perspire and suffer and feel that 20° and 30° above the comfort zone must be endured. A few years ago, people said "We don't need air conditioning". Today, the public is awakening to the fact that there is no need to endure such excessive temperatures and they shop around for air conditioned theatres, cafes, department stores, etc. It won't be very long and the public will demand the same comfort in the home. It is only a matter of education, and the move is already in this direction.

"What is Air Conditioning?" is the next question on the program. Air Conditioning has been broadly defined as the simultaneous control, within enclosures, of temperature, humidity, air cleanliness and air motion. Ventilation consists of supplying or removing air to or from confined spaces and requires no pretreatment or purification of the air. On the other hand, air conditioning controls the quality of the air which may necessitate heating, cooling, drying, moistening or purifying the air. These functions of air conditioning vary with seasons, but at all times and in all locations air conditioning should:

1. Ventilate, introduce and distribute, without drafts, a continuous supply of conditioned air, properly filtered so that the air is free of dust, soot, pollen and other foreign matter.
2. In cold weather, heat and maintain in the enclosures a comfortable and equalized temperature, and humidity to the air to offset harmful dryness produced by the heat added to the air.
3. In hot weather, cool and provide helpful relief from outdoor heat, and dehumidify the air to remove excess moisture present in the air during hot muggy weather.

In many climates, especially those climates experienced in the Pacific Coast areas, we find that relief from unpleasant weather conditions is frequently required only during the summer time. In other climates where severe winter

A Carrier air conditioning unit, ready for installation.



seasons are experienced, relief during the winter time may be required.

To differentiate from the all year-around air conditioning system, as defined in the foregoing, we have classified three types of air conditioning systems:

1. All year-around conditioning, or 100% air conditioning.

2. Summer air conditioning which incorporates control of cooling, dehumidification, air motion and air filtering.

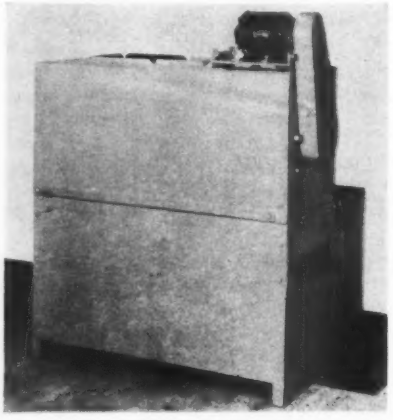
3. Winter air conditioning which incorporates control of heating, humidification, air motion and air filtering.

All three systems may be termed air conditioning systems, and can be installed depending upon the owner's requirements and local climatic conditions. For instance, in Southern California, Arizona, San Joaquin Valley and, generally, in those climates where the Summers are severe and the requirements for heating may be easily met with gas heating units,) summer air conditioning, or frequently called summer cooling systems, are generally installed for summer relief. These systems are what the word implies, simply cooling systems controlling temperature only and may be easily installed with or without air distributing systems. The simple summer cooling system is considerably cheaper than complete air conditioning and for that reason is popular in those climates.

Air conditioning is simply a process of heat removal from an enclosure. It is accomplished by means of supplying cold air, properly distributed and diffused to prevent drafts, to the rooms. Because the air supplied is at a low temperature, it has the capacity to absorb heat from walls, windows, ceiling, lights and occupants in the enclosure. The amount of heat liberated by the walls, windows, ceiling, lights and occupants is carefully calculated by the air conditioning engineer, and sufficient air, the quantity predetermined, is then supplied to the room so that the temperature of the air supplied rises, due to heat absorption, to a predetermined temperature which is the temperature at which the room is to be maintained.

A temperature control instrument, called thermostat, is generally installed in the room to control the room temperature. This instrument, in case of a simple control system, controls the temperature of the air entering the room so that the heat absorbing capacity of the air may be varied, depending upon the amount of heat to be absorbed from the walls, windows, etc., which, of course, is a function of outside temperature conditions. During a hot day the air supplied to the room has to absorb more heat than during a cool day.

The cool air introduced to the building is cooled by contact with a cold water spray or contact with a cooled metallic surface, generally copper pipes or tubes, called coils. Through these coils a medium is circulated which is colder than the air surrounding the coils. This medium is the refrigerant. In other words, the heat from the enclosure is transferred to the air supplied to the room, and the now heated air transfers, in



A floor mounted model of Carrier air conditioning equipment.

turn, its heat to the refrigerant. Commonly used refrigerants are either ammonia, methyl chloride, Freon, Carene. Generally for air conditioning work Freon or Carrene is used, because these refrigerants are safe, i.e., non-toxic, non-explosive, non-inflammable and therefore are better suited for use where the safety of human beings is of paramount importance.

This process of transferring heat from a medium which is to be cooled, to some convenient medium which has a temperature lower than the material to be cooled, is called refrigeration. Heat, like water, always flows down hill and therefore the first problem in refrigeration is to find some agent sufficiently cold to start the heat current on its down hill process.

Because air had to be used for ventilating purposes, transferring heat to cold air was the first step in the refrigeration process for air conditioning. The second step is to transfer the heat from the air to a medium which is colder, and, although cold water was used for many years, in recent years the heat from the air is now generally transferred directly to a refrigerant.

The refrigerant is in a gaseous state when it absorbs heat from the air. This gas is now compressed in the refrigeration compressor to a higher pressure with correspondingly higher temperatures and is then cooled in the refrigeration condenser by means of water. During this cooling process the refrigerant condenses to a liquid and is again returned to the liquid receiver. The liquid refrigerant is now used over again. It is pumped to the air cooling coil, generally called evaporator, where the refrigerant flashes to a gas so that it may absorb heat from the air which flows over the coil. This process is repeated continuously.

Summarizing—the process is as follows: Heat from the building is transferred to air; the heated air transfers its heat to a refrigerant; and finally the refrigerant transfers the heat to water which is then wasted. To conserve this water, generally a cooling tower is used to cool the water so that this water may be used over again. In other words, in this case the final heat transfer is from water to air, where it is wasted to the atmosphere.

Refrigeration, as applied to air conditioning, is a subject by itself. Time does not permit a detailed treatment of this phase of air conditioning in this paper. I have attempted to give a general description of the functions of refrigeration as it is applied to air conditioning work.

The next question is **What Does an Air Conditioning System Consist of?"** The essential parts of an all year-around air conditioning system are:

1. A fan or blower to move the conditioned air to the various spaces to which the system is connected.

2. A filter, or filters, either dry type or wet type, generally called air washers, to cleanse the air.

3. A medium to cool the air, usually a copper cooling coil over which the air passes and is cooled, and through which a cooling medium, called the refrigerant, is circulated.

4. A medium to heat the air, usually a copper coil over which the air passes to absorb heat, and through which a heating medium, generally steam or hot water, is circulated.

5. A refrigeration compressor with accessories to supply the refrigeration

effect. The refrigeration compressor is merely a heat pump necessary to make it possible to use the refrigerant over and over again.

6. A boiler with accessories to furnish the heating effect.
7. An air distributing system, generally constructed of galvanized iron to convey the air from the fan to the various rooms connected to the system.

There are four basic types of air conditioning systems:

1. Central type — The equipment described in the foregoing represents a typical installation of central station air conditioning. The equipment in usually located in the building basement or on the roof. It transmits conditioned air through a duct system to the rooms to be conditioned and the air enters the rooms through grilles in the wall. The type of system is generally installed in large buildings. The chief problem is that the construction of the building may make the installation of ducts physically or financially impractical.
2. Central Unitary type — This type is identical with the large central system except that unitary equipment is used for central station application. Fans, cooling coils, filters, heating coils, humidifier, etc., are assembled in one self-contained unit, factory tested and ready for installation. Various sizes of conditioners may be purchased which are easily installed and require little space. The compressor, boiler and duct work are added to make a complete air conditioning system.
3. Remote Unitary Air Conditioning System—The type is applicable for installation where it is necessary to condition two, three or four rooms. The conditioned air is distributed throughout each room by means of a room air conditioning cabinet which contains fans, filters, cooling coils, and humidifier. The room cabinet is generally placed in front of the windows for most effective air distribution. The compressor may be located at a remote point, in the basement, or closet, and is connected by means of copper tubing to the cooling coil in the cabinet. Obviously, the unit type has a high salvage value and may be readily moved if the tenant should change location. Only the refrigerant tubing and wiring are wasted. Each room may be controlled individually by simply shutting the fans in the cabinet.
4. Self-contained System—As the name implies, these units contain within one cabinet all the apparatus necessary for air conditioning. They are designed to condition only one room. Most of these units are for summer air conditioning only, they cool, ventilate and filter the air. These units have their limitation—they don't supply 100% air conditioning; however, they have distinct economic advantages. They are relatively inexpensive and may be easily moved from place to place.

I have not presented in this paper detailed description of the various engineering problems connected with air conditioning. The Program Chairman has allowed forty minutes for this paper and it would have been impossible to have presented more than just a general description of air conditioning. If the subject of air conditioning is of further interest to this organization, I would be very happy to present other papers on any phase of air conditioning in which you may be particularly interested.

TRAFFIC COP FOLLOWED IT TEN MILES

Followed what? A Campbell Boiler Feed-Water Level Controller on Campbell Demonstration car. Said, "I've been watching those things a long time. What are they?"

"Those things" are the most sensitive regulators ever brought out. Hold levels to within a half inch. Have licked the toughest jobs presented.

They can be supplied with Whistle Alarm attachment or Mercoid signaling device if desired.

Whatever form of Campbell Controller you order, it will take over full responsibility of feeding your boilers when and just the amount they need.

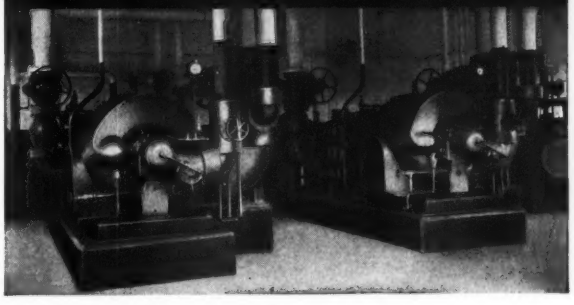
Write or phone for particulars or for a demonstration.

J. A. CAMPBELL COMPANY

P. O. Box 851 **Phone: 416-93**

LONG BEACH, CALIF.

WHY THIS REFINERY CHOSE G-E TURBINES



These turbines drive centrifugal pumps.

TO obtain reliable variable-speed drive for charging and rerun pumps, as well as to obtain an improvement in plant heat balance, this large Southern petroleum company installed twenty G-E mechanical-drive turbines in ratings of 40 to 450 hp.

Let General Electric engineers suggest improvements for your plant. Write for this service. General Electric Company, Schenectady, N. Y.

GENERAL ELECTRIC

Above are the members of the entertainment committee of the Taft Chapter of the C. N. G. A., together with the chairman of the chapter. The men are: Russell Wood, Taft chairman; E. B. Armstrong; M. J. Binckley, entertainment committee chairman; E. C. Foft; L. R. McMaster. In the center panel the wrestlers, Howard Muir and Harry Stumbaugh, both of the Standard Oil Co., are getting a bit involved, while at the right is a group of the ringside spectators. In the left center panel are Jess Burks, president of the association, Wallace McIlhany, secretary-treasurer, and Russell Wood, Taft chairman. To their right are the wrestlers—before the battle. The panels below show scenes on the fishing trip taken by a group of C. N. G. A. members. The yellowtail in the foreground of the center panel is the best catch of the day, and was caught by Billy McGraw.

Two C. N. G. A. Holidays

These shots show some of the things the members of the California Natural Gasoline Association do when they are not busy making natural gasoline.

The upper group of pictures shows the members of the Taft Chapter of the association enjoying themselves at their recent annual Hi-Jinks, at which about 125 were present. The affair was held at Murch's Grove on Aug. 27.

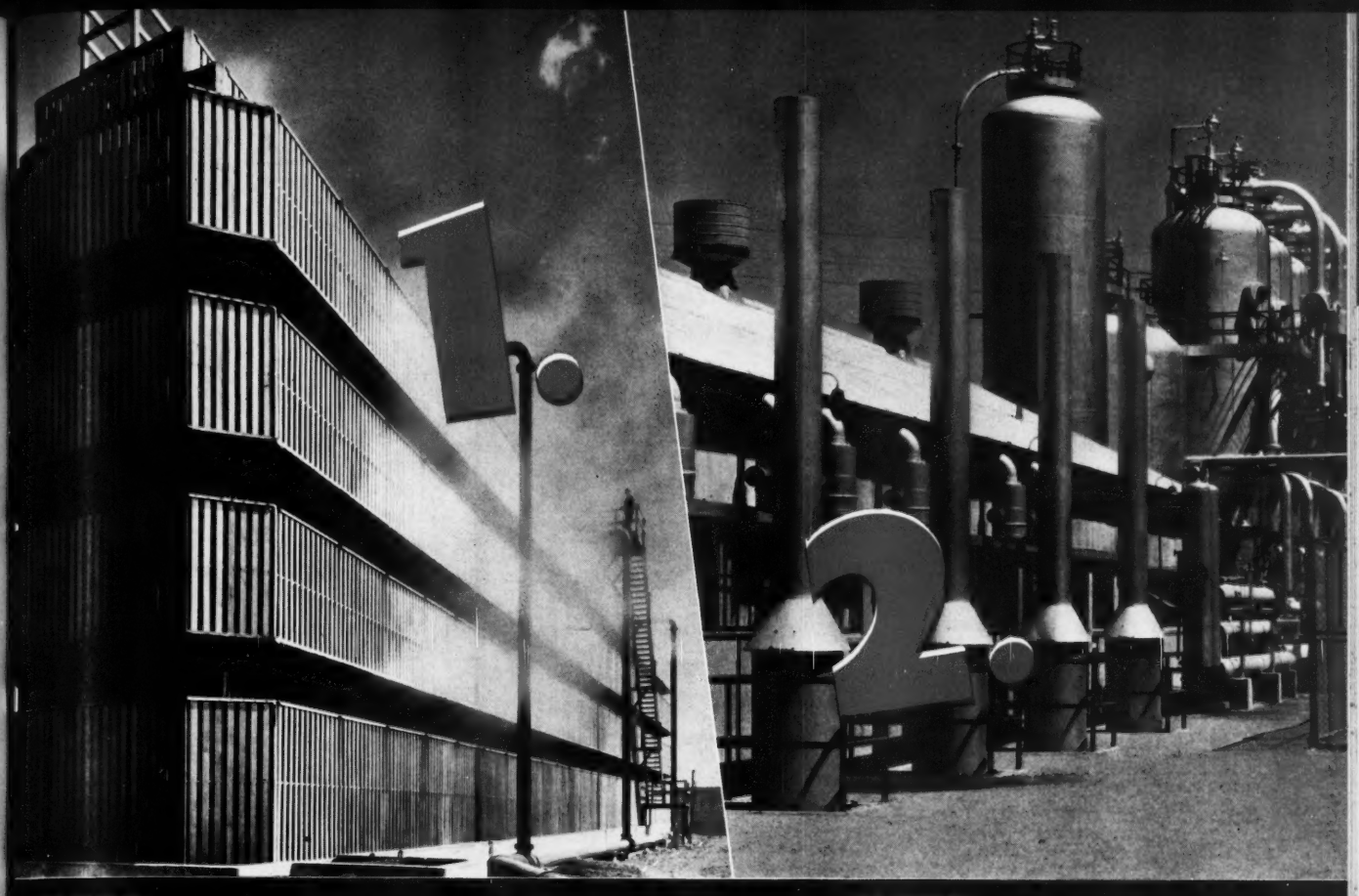
Horseshoes and beer were the two main attractions of the afternoon but these were eclipsed for a time as members gathered to see Howard "Doc" Muir of the Standard Oil Co. defend his C. N. G. A. wrestling championship against Harry Stumbaugh, another member of Standard Oil Co. Spectators claim that "Doc" nearly had Harry a number of times, but when the two became so intertwined that a pipe wrench was necessary to separate them the match was called a draw.

The wrestling match was followed by the barbecue—and more beer—which was pronounced excellent by all attending.

Jess C. Burks, president of the C. N. G. A., and Wallace McIlhany, association secretary, attended. The Hi-Jinks committee was composed of M. J. Binckley, chairman, L. R. McMaster, E. C. Foft, and E. B. Armstrong.

The lower panel is of a recent fishing trip arranged by Wallace McIlhany, secretary of the association, on which 14 members spent the day on the "Elmo" off Catalina Island, leaving Newport at about 5:00 A. M. and returning at 4:30 on the afternoon of Aug. 21.

Those on the boat were: R. D. Gibbs, Jack McFarland, Billy McGraw, Pat Barrett, E. J. Lange, Herb Barrett, Hal McCartney, Ed Leabow, Reed Garman, Wallace McIlhany, W. C. Monroe, L. O. Miller, and F. J. Olson.



FLUOR AREATOR TYPE COOLING TOWERS

FLUOR AIR-COOLED MUFFLERS

FLUOR GAS CLEANERS

Essential requirements of many production, manufacturing and distribution services in the industry are met in 1-2-3 fashion with Fluor Aerator Type Cooling Towers, Fluor Air-Cooled Mufflers and Fluor Gas Cleaners. The world-wide acceptance of these products is due primarily to the following important features. Consider them carefully.

FOR MAXIMUM EFFICIENCY FOR MEASURABLE ECONOMY

1. Fluor Aerator Type Cooling Towers—eliminate wind blown spray; require least amount of water for make-up; give maximum and uniform cooling; utilize a minimum of ground space.
2. Fluor Air-Cooled Mufflers—eliminate expenditures for water as a cooling agent; insure cooler stack, room and floor temperatures; are quieter in operation; permit development of maximum engine horsepower; are available for all types of engines.
3. Fluor Gas Cleaners—remove over 99% of moisture from the gas stream; no moving parts; simple, fool-proof construction; quickly serviced; minimum resistance to passage of gas.

Briefly, increased efficiencies and measurable operating economies result from the use of these Fluor products.

Illustrated Bulletins containing valuable engineering data are available upon request.

The FLUOR CORPORATION, Ltd.

Main Office: Box 128, Station K, Los Angeles, Calif. • 990 McCormick Building, Chicago, Illinois • 703 Fairfax Building, Kansas City, Missouri • 934 M & M Building, Houston, Texas • 710 Canadian Pacific Building, New York City, N. Y. • 719 McBirney Building, Tulsa, Oklahoma

Water Vapor Content Of Natural Gases

As character of production changes from flush to gas lift to pump, "plant factor" becomes inaccurate.

By Edgar E. Shafer, Jr.

Until recent years, little or no account was taken of water vapor in gases being separated from petroleum in traps at the wells. These gases, called "wet gases" because of the fact that they contain light gasoline fractions, are conducted to natural gasoline plants where the gasoline is removed from the gas by means of absorption or compression.

Royalties for the gasoline so removed have been based upon several types of tests, usually the charcoal absorption test, or where more complete data is required for plant design, by analysis by fractional distillation. The charcoal tests are made by passing a measured volume of the gas as it goes from well to plant through apparatus containing activated charcoal. By heating the charcoal in the laboratory, the gasoline was recovered and computed from the volume of gas passed through the apparatus to gasoline content of the gas in terms of gallons per thousand cubic feet.

Due to the fact that trap pressures were fairly high and the gasoline content of the gas of the order of 2 gal/mcf or less, little or no attention was paid to the content of water vapor in reporting the gasoline content for royalty settlement. In general, the error due to completely neglecting the water vapor content was less than 2% and in fields where all of the wells were producing under fairly similar conditions, a "plant factor" applied to the charcoal tests covered a multitude of sins and caused the royalty distribution to be as fair for one as for another.

Within recent years, however, many fields passed the period of flush production. Some of the wells continued to flow naturally, although the trap pressures dropped and the gas became wetter; other wells were produced by means of gas lift and still others were put on the pump.

This caused a considerable variation, not only in the degree of gasoline saturation but in proportion of the various gasoline constituents. That is to say, if the output of finished gasoline of a certain plant had a fairly regular composition due to its being the average yield of several different types of gases, the "plant factor" based on the composition of the gasoline could not be accurately applied to the varying types of gases.

Brown, with a vacuum on his traps, would produce a gas showing 6 gal/mcf from which the plant could produce only 4 gal/mcf of the base composition. Jones, with flowing wells, would produce three gallons of gas, from which the plant could produce 2.5 gal/mcf. Smith, recirculating gas to produce his oil, would produce 1.5 gallons of gas which could, within limits, be completely recovered, or even be capable of holding some of the light fractions of Brown's gas in making the final plant production.

From this it can readily be seen that the "plant factor" could not be applied as fairly to all as it had been originally. To get back to the subject of this discussion, the content of water vapor would no longer be uniformly of the order of 2% or less, but could be as high as 10% of Brown's 6 gallons of gas so when the dry gas was pro-rated back to the original owners, a fairly large discrepancy in volume could be introduced which would give the gasoline plant operator plenty of headaches in trying to be fair to all.

It was in recognition of the problems outlined above that the California Natural Gasoline Association undertook to modify the charcoal test and introduced the present procedure. The test as now conducted absorbs the gasoline fractions after the gas has been dried. A measurement is made of the content of water vapor in conjunction with the gasoline absorption. In addition, the charcoal is distilled under carefully regulated conditions so that the amount of gasoline shown is the amount of base composition gasoline that the plant has to work on. In this manner, the errors due to varying compositions of the different gases entering the plant have been fairly well eliminated from the practical standpoint.

It is of interest to note, as the data have been accumulating from the new charcoal test, that the content of water vapor as shown by the instrument used in connection with the test has agreed in most instances with the theoretical value for complete saturation which may be computed from temperature and pressure conditions in the line. This agreement is entirely within reason. Even extremely clean crude oils contain a small amount of water; the oil and gas are fairly well contacted in the traps which are usually warmer than the lines after carrying the gas for a short distance. If the gas is not completely saturated with water vapor when it leaves the trap, a lowering of line temperature will quickly bring the concentration up to saturation and a thin film of moisture will form on the pipe walls, thus leading to perfectly saturated conditions. With the data thus accumulated, an engineer in the field may assume complete saturation of water vapor and calculate from temperature and pressure conditions with more of a feeling of safety as to accuracy.

4 ways TRITON CUTS OPERATING COSTS=

Fresno trucking firm runs 6 trucks over 90,000 miles without a valve grind...with Triton!

THE Service Transfer Co., Fresno, Calif. bought six new trucks early in 1935. Has run them with Triton ever since. Mr. G. K. Marsh, manager, writes: "We now have the first of these trucks in the shop after running it 98,279 miles, and the cylinder walls show an average wear of one ten-thousandth of an inch, which we consider phenomenal. We have never had a stuck piston ring, and we have never been bothered with sludge in the crankcase. We have never ground a valve in any of these trucks, and they have all gone better than 90,000 miles."

That's a typical example of the way Triton is saving money for truck operators all over the Coast.

Triton cuts operating costs because it is 100% PURE paraffin-base...100% PURE lubricant. It is Propane-Solvent refined...entirely free from low-grade carbon and sludge-forming materials. Triton gives better lubrication longer—with *safety* and with *savings!*

Next time you order oil—try Triton.

UNION OIL COMPANY

100% PURE PARAFFIN-BASE

Waters Designs Valve Exhibit

One of the men instrumental in designing and installing the exhibit of the Merco Nordstrom Valve Co. at the Oil-World Exposition, Oct. 11-16, is the company's San Joaquin Valley representative, Russ Waters.

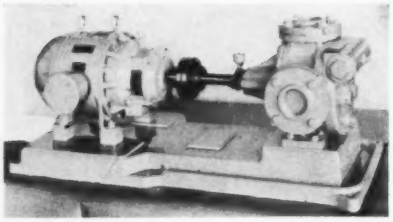
Mr. Waters is well known to employees of the California oil fraternity, having been with the Merco Nordstrom organization for the past eight years. Five years of this time have been spent in the San Joaquin Valley area. Formerly he covered the Fresno and San Francisco Bay regions, with headquarters at the Merco Nordstrom plant in Oakland.

Spun End Drums Give High Strength

Users of small pressure vessels will be interested to know that spun or forged end drums are now being manufactured in Los Angeles by Midwest Piping & Supply Co. This design eliminates a welded head and the result is a seamless vessel of exceptional strength. Drawing or spinning the ends results in upsetting, giving approximately twice the wall thickness at the ends as in the center.

Such vessels can be made in pipe sizes from 3 in. to 18 in., inclusive, and any length. The picture shows two 14x3/16 in. miniature boiler drums with ends drawn down and 2 in. wash-out plugs inserted. These drums as well as others subject to pressure all bear A.S.M.E. stamp and approval. Some of their uses are as follows: Miniature boilers, CO_2 converters containing dry ice at 1000 lbs., sampling gas bottles and oil drip pots.

New Type Pump Now Available



A unique pump is being introduced to the California oil industry by Shand & Jurs Co., 225 W. 11th St., Los Angeles. The pump, manufactured by Yale & Towne Manufacturing Co., has the advantages of both a centrifugal pump and a positive displacement pump in that it can be closed off directly against the discharge without any by-pass or pressure release and that it is possible to pull 22 inches to 27 inches of mercury on the suction.

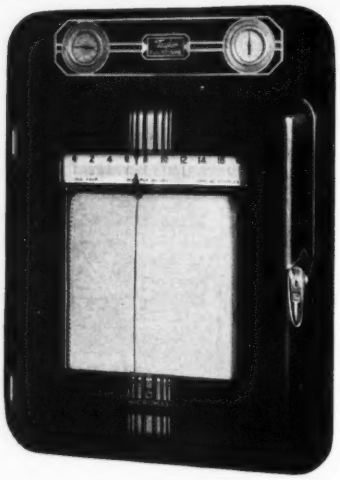
The variable volume feature is accomplished by an automatic variable stroke which shortens or lengthens in proportion to the volume pumped, with a corresponding decrease in power consumption. The pump is slow speed and motor driven.

A micrometer head can be obtained to adjust the stroke with extreme precision, thereby making an extremely accurate proportioning pump.

On certain models the liquids can be pumped in either direction with the pump always rotating in the original direction, thus making it possible to clean out lines without stopping the motor.

The pump will handle non-lubricating liquids as well as those containing lubrication and is being used successfully on butane, gasoline, diesel, lube oils, and bunker C fuel oil, as well as on gasoline and fuel oil tank trucks, by use of a power take-off. The motor idling speed is ideally suited to the pump.

Taylor Develops New Controller



For those process control problems where smooth, proportional valve action is imperative and the potentiometer principle of temperature measurement is preferred, the Taylor Instrument Co., Rochester, New York now offers the Fulscope Micromax air-operated potentiometer controller.

It utilizes the same completely adjustable air-operated control mechanism that is used in the thousands of Fulscope temperature, pressure, rate of flow, and liquid level controllers now in service.

The temperature measuring system is the well known Micromax recording and indicating potentiometer. This is the only potentiometer in which all functions affecting accuracy of temperature measurement are fully automatic—automatic reference-junction compensation; automatic, positive balancing of the potentiometer circuit; and automatic current standardization.

The principal parts of both mechanisms are interchangeable with the many Fulscope and Micromax instruments now in service. This permits small stocks of replacement parts, low maintenance costs, and better service.

The Fulscope control unit operates in conjunction with the Taylor Motosteel diaphragm valve. Where precision valve action, or both precision valve action and compensation for changes in load, may be necessary to prevent deviation from the control point, the Fulscope control mechanism can be supplemented with the Taylor Valv-Precisor or Dubl-Response control unit, respectively. Thus, control equipment which most economically solves the individual control problem may be selected.

Gas Men Attend Gas Convention

Local gas company men who are attending the American Gas Association's convention in Cleveland include:

Arthur F. Bridge and Norman R. McKee, both vice-presidents of the Southern Counties Gas Co.; F. M. Banks, vice-president in charge of sales; Wm. Moeller, Jr., vice-president and manager of gas operations; H. L. Masser, executive vice-president; Lee Holtz, general superintendent of distribution; J. S. Spaulding, advertising manager; H. L. Warren, sales research; R. R. Blackburn, general agent; all of the Southern California Gas Co.; R. A. Hornby, vice-president of the Pacific Lighting Corp.; S. W. Todd, vice-president in charge of construction and operations, Industrial Fuel Supply Co.

Dumm, Todd Attend Gas Association Meet

Ben C. Dumm, asasistant Pacific Coast manager of Cooper-Bessemer Corp., and S. W. Todd, vice-president of Industrial Fuel Supply Co., sailed early this month on the "California" for New York via the Panama Canal. Both will attend the convention of the American Gas Association in Cleveland.

Reed Returns From Business Trip

J. W. Reed, of Cooper-Bessemer Corp., has just returned from a three weeks' business trip to the Pacific Northwest.

Dahl Returns To Office From Hospital

H. C. Dahl, agent in Southern California for the Fisher Governor Co., has been in the hospital for three weeks, the result of an operation. He will be back on the job in about a week, after two weeks' confinement to his home.

Brooke Back After Attending Convention

G. T. Brooke, of the Crane Co., has returned to Los Angeles after attending the Pacific Coast Gas Association meeting in Seattle, after which he made a business trip through the Pacific Coast territory, including a visit to Salt Lake City.

Brooks Gone On Month's Trip

Gene Brooks will spend about a month on a business trip to Seattle and San Francisco. Mr. Brooks is with The Babcock and Wilcox Tube Co.

Watson Transferred From Fellows To Ventura

L. F. Watson, for the past eight years a member of the gas division of the C.C.M.O. Co. engineering department at Fellows, last month was transferred to Ventura. He moved to his new post Aug. 24.

During the time Watson was stationed at Fellows he took an active interest in the affairs of the gasoline industry. He was appointed a member of the board of directors of the Taft chapter of the California Natural Gasoline Association for the year ending June, 1937, and on June 19 of this year, shortly before he was notified of his transfer, was named secretary of the Taft organization.

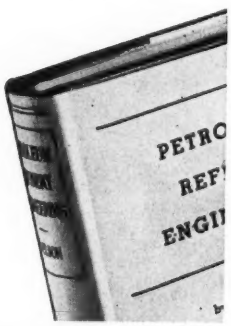
Upon his departure for his new post, members of the Taft chapter of the C.N.G.A. adopted a resolution expressing regret at the loss of so valuable a friend and member, and wishing Watson continued success in his new location.

Hoffman Visits Clark Factory

J. Roy Hoffman, vice-president of Smith-Booth-Usher Co., left recently for the Clark Bros. factory at Olean, N. Y.

Petroleum processing
Design and operation
of petroleum equipment

Here is a guidebook for plant managers, superintendents, chemists, engineers, and other refinery men—the first to provide a complete engineering treatment of petroleum processing, emphasizing its relation to chemical engineering, and covering fundamentals, details of the design and operation of petroleum equipment, economical aspects, etc.



Petroleum Refinery Engineering

By W. L. Nelson
Professor of Petroleum Refining, University of Tulsa
647 pages, 6x9, 185 illustrations, $6.00

Orders may be placed through
CALIFORNIA OIL WORLD
714 W. Olympic Blvd. Los Angeles, Calif.

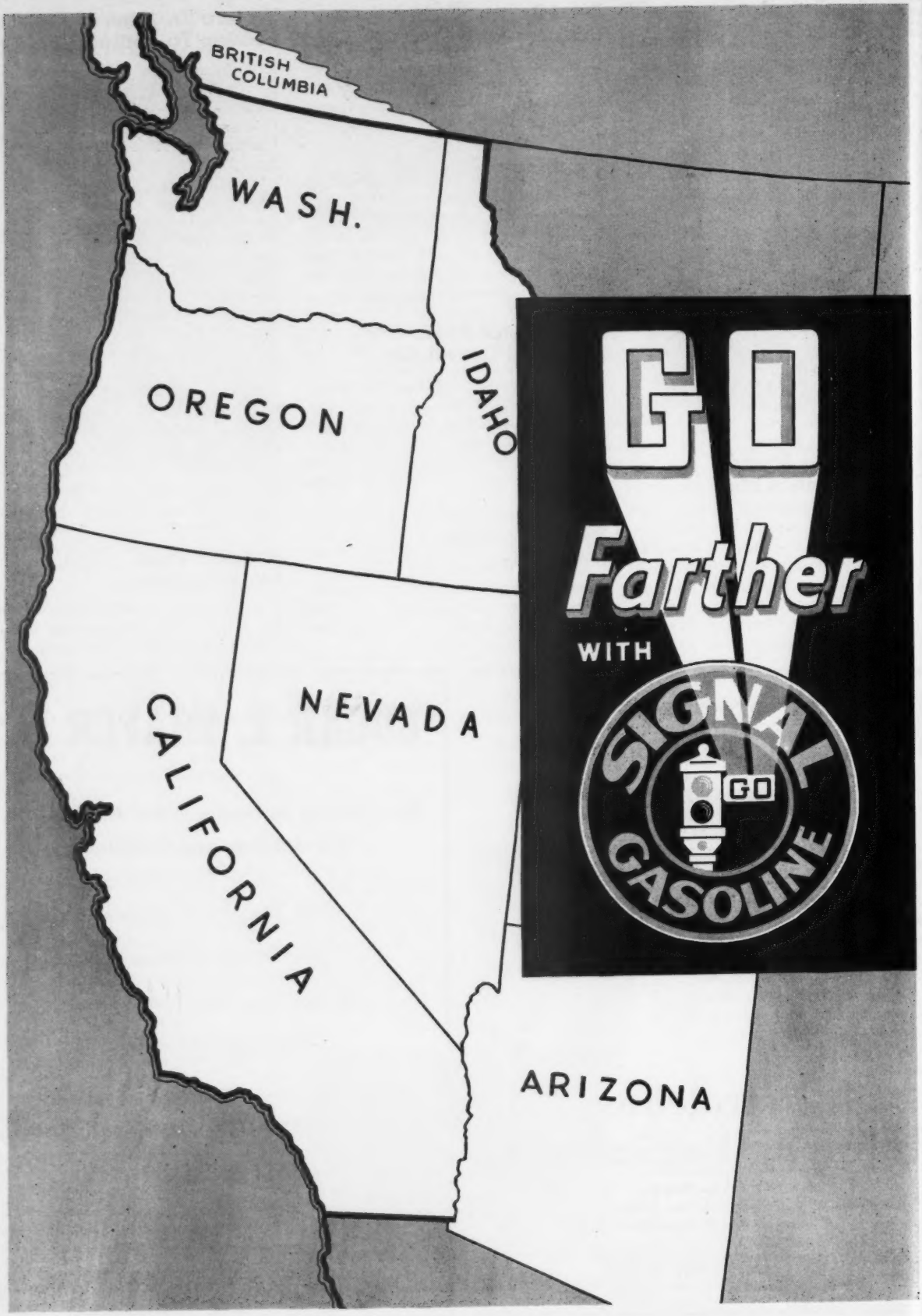
EDGAR E. SHAFER Jr.

Specializing in fundamental Analysis of Natural Gas and Gasoline

Mol Weight of Liquids
Reid Vapor Pressures
Oil and Gasoline Distillations
Gasoline Blending

LABORATORY—5360 East Ninth Street
LOS ANGELES

Phones—Montebello 1093
Alhambra 8518 J


BRITISH COLUMBIA
WASH.
OREGON
IDAHO
NEVADA
CALIFORNIA
ARIZONA
GO
Farther
WITH
SIGNAL
GO
GASOLINE

Field Development

Coastal District

Macrate Gets Honors In Santa Maria Area

The Santa Maria Valley south of the city is rapidly attaining the proportions of an important oil field.

A. N. Macrate in the northeast quarter of sec. 26, in the older producing area, obtained the largest recent production in Fernandez No. 2. The well, drilled to 4620 ft. with 9-inch pipe cemented at 3925 ft., made an initial flow of more than 2000 bbls. per day of 17.5 gravity oil cutting 3% and on potential test flowed at the rate of 3820 bbls. per day. The top of the Monterey is placed at 4000 ft.

Union Oil Co. carried off top honors for completions in the northwesterly extension area with Russel No. 2 in sec. 21, 10-34. With less than 500 ft. of zone open to 4457 ft., the well made 1308 bbls. per day on a potential test before being shut in. Pacific Western Hobbs No. 4, an offset to Russell No. 1, and 200 ft. lower structurally than Russell No. 2, was brought in on the pump for more than 500 bbls. of clean oil. Moretti No. 1 of the Ohio Oil Co. plugged bottom from 4057 ft. to 3971 ft. and was completed for about 150 bbls. clean oil. This well is located approximately 700 ft. northeast of the big Union producer. Midway between these wells and the established production to the east, the S.M. Oil Co. completed its first well on the Gerard-Dal Porto property in the ne¼ sec. 27. With total depth of 4458 ft. and water shut off at 4060 ft., the well was pumped in for nearly 500 bbls. per day of 16.5 gravity oil cutting 3%, thus proving up the center of what is apparently a field more than five miles in length.

In the Adam portion of the field, Union completed Bradley Lands No. 1 from a plugged depth of 5161 ft. flowing 363 bbls. of 15.3 gravity oil through a quarter-inch bean. Cut was 12% water. The company's southeast outpost well, Cook No. 1, after being plugged from the Franciscan at 6710 ft., was put on the pump making mud, water and some oil from 3770 ft.

To the west of the proven district, Union Oil Co. is rigging up heavier equipment in LeRoy No. 2 on the Guadalupe Rancho and E. H. Moore has made more than 3500 ft. of hole on the Union Sugar Co. property northeast of Betteravia.

Arnold Gets 100 Bbls. In Carreaga Test

An interesting test is being made by E. C. Arnold Oil Corp. in Arnold Apache No. 2 in the Carreaga area. A 5-inch line, including 1520 ft. of perforated, was landed on bottom at 6373 ft. and the well put on the pump. The initial production was almost entirely drilling mud and water but later cleaned up to about 100 bbls. of 19.5 gravity oil cutting 36% daily.

Hancock-Pet. Sec. Test May Be Abandoned

The joint test of Hancock Oil Co. and Petroleum Securities Co. of the Los Alamos Ranch, Los Alamos No. 2, is now below 6000 ft. Although the solid brown shale shows a small amount of oil in the fractures, the companies have seen nothing yet to warrant a test and the well may soon be abandoned. South of Huasna, Hancock is coring below 2100 ft. in Scherer-Dickes No. 1. The extremely hard shale formation continues with occasionally free oil in the fractures. This test is about a mile and a half southeast of the small producers drilled some years ago by the Texas Pacific Coal and Oil Co.

Gaviota Makes Tests In Los Olivos Project

Gaviota Oil Co. has made formation tests in Hollister No. 1 near Los Olivos from 3150 ft. to bottom at 3207 ft. in an attempt to determine whether or not the grayish oil sand cored is capable of production. Considerable gas is in evidence, at one time making a flow estimated at 4000 mcf, but as yet no oil has been forthcoming. A string of casing will be set at 3185 and a production test made. At the height of the coast wildcatting boom of 1928-29 the Western Gulf Oil Co. drilled two wells on the Hollister Ranch and succeeded in getting only several million cubic feet of dry gas plus a strong flow of salt water.

State Drilling Report

Field	Company	Well	No.	Sec.	Twp.	Range
NEW WELLS						
Wilmington	General Petroleum Corp.	Isco	A-4 & A-6	4	5S	13W
	Bankline Oil Co.	Dom. Harbor Comm.	25	34	4S	13W
		Classification Yard	3	34	4S	13W
		U. P.	2, 3, & 4	3	5S	13W
		U. P.	5	3	5S	13W
		Pacific Term. Comm.	8	35	4S	13W
		Pacific Term. Comm.	10 & 18	34	4S	13W
	Nielsen-Dunwoody & Associates		1	32	4S	13W
	Union Pacific Railroad Co.	U. P.	62, C-5 & C-6	33	4S	13W
		U. P.	59, 60 & 61	4	5S	13W
		Jacobs	1	22	3S	9W
Orange County	Angelus Oil Corp.	Oliver	1	22	3S	9W
	Mid-State Petroleum Co.		1	22	3S	9W
	Arthur W. Bjorth		1	31	3S	9W
	Beverly Hills Petroleum Co.	Fricke	1	17	4S	14W
Torrance	Edward C. Kavanaugh	H. R. L.	1	7	5S	14W
El Segundo	Geo. F. Getty, Inc.	E. S.	1-A	8	5S	14W
	Tidewater Associated Oil Co.	Leuzinger	1	7	5S	14W
	Richfield Oil Corp.	Howard	127	18	3S	10W
Coyote Hills	Standard Oil Co.	Murphy-Coyote	1-A & 6-B	10	6S	11W
Huntington Beach	Wilshire Oil Co.	H. B.	4	34	2S	14W
Fullerton	Tidewater Associated Oil Co.	Cypress	2	13	4S	13W
Long Beach	Hildon Oil Co.	Amebco	4	10	4S	12W
	The Texas Co.	Baumann	92	33	3S	13W
	Shell Oil Co.	Reyes	18	18	3S	13W
Dominguez	Barnsdall Oil Co.	O'Dea	1	27	10N	34W
Rosecrans	Pacific Western Oil Corp.	Dal Potro	3	21	10N	34W
Santa Maria Valley		Hobbs	15	27	10N	34W
	Fred E. Cole	Cole	1	21	10N	34W
	Bishop Oil Co.	Goodwin	2	21	10N	34W
	The Ohio Oil Co.	Joseph Moretti	4-30	30	10N	33W
	Union Oil Co.	Vincent	1	21	10N	34W
	J. E. O'Donnell	Lloyd	1	28	10N	34W
	R. E. Rush Oil Co.	Hancock-Bush Wylie	2	19	10N	34W
Santa Barbara County	E. H. Moore, Inc.	Union Sugar	15	15	7N	30W
	United Western Oil Co.	Bradley	1	15	1N	22W
Ventura County	Walter G. Rowe	Johnson	134	4	3N	19W
Bardsdale	The Texas Co.	Shields	13	6	32S	23E
Midway	Richfield Oil Corp.	Fellows	45	21	32S	23E
	C. C. M. O. Co.		5 & 6	13	32S	23E
Round Mountain	California Western Oil Co.		4	16	28S	29E
	Eastmont Oil Co.	Olcese	1	12	28S	28E
	H. A. McDonald	Larkin	23	20	28S	29E
	Honolulu Oil Corp.		43	18	28S	29E
			3	14	30S	25E
Ten Section	The Ohio Oil Co.	KCL-E	61-31	31	30S	26E
	Shell Oil Co.	KCL-B	1	32	26S	28E
Mount Poso	Golden Bear Oil Co.	Hyde	1	33	26S	28E
	Ring Oil Co., Ltd.	Loudon	1	32	26S	28E
	Dwight G. Vedder	B. N. B.	2	29	26S	28E
	Vedder Petroleum Corp.	Lambert-20	3	21	26S	28E
	Sunset Oil Co.	Bowles	2	28	27S	27E
Poso Creek	H. W. Baker	Baker	2	14	27S	27E
	Desert Glow Oil Co.		1	36	27S	27E
	Pacific Oil & Gas Dev. Corp.	Davidson	3-30	32	28S	27E
Kern River	California Star Oil Co.		1	16	28S	28E
	Well Developers, Inc.	Detert	9	20	29S	26E
Greeley	Standard Oil Co.	KC 11	1	20	29S	26E
		Fleishauer Comm. 3	8	27	29S	27E
Fruitvale	Western Gulf Oil Co.	Red Ribbon Ranch	27-KCL-B	21	29S	27E
			11-B	11	28S	20E
Lost Hills	Tidewater Associated Oil Co.	Williamson	4	2	26S	20E
	Standard Oil Co.	United	9	32	30S	29E
Mountain View	Hogan Petroleum Co.	Wharton	A-6	35	30S	29E
	The Ohio Oil Co.	Derby	7	15	30S	29E
Edison	Monterey Exploration Co.	Duff-Shell	1	21	30S	29E
	Wood-Callahan	Community	1	21	14N	5W
Colusa County	D. & M. Oil Co.		1	31	18S	17E
Fresno County	Pure Oil Co.	S. P. L. Co.	1	25	4N	2E
Rio Vista	Tracy Drilling Corp.	Hanson				
DEEPEN OR REDRILL						
Long Beach	C. & F. Oil Co.		1	19	4S	12W
	Shell Oil Co.	Ness	13	29	4S	12W
		Pirkler	8	29	4S	12W
			CB-2	19	4S	12W
	Thos. Kelly & Sons.		64	30	4S	12W
	South Basin Oil Co.		16	29	4S	12W
	Davis Investment Co.		5	24	4S	13W
	W. O. Dye	Dye	3	29	4S	12W
	Richfield Oil Corp.	Booth	3	21	2S	15W
	Southwest Oil & Develop. Corp.		6	34	5S	11W
Playa del Rey	Union Oil Co.	Brooks	3	10	6S	11W
Huntington Beach	Wilshire Oil Co.	H. B.	1	2	6S	11W
	Richfield Oil Corp.	Community	1	25	4S	14W
	D. F. Peyton Oil Co.		49	34	3S	13W
Torrance	Shell Oil Co.	Reyes	2	17	3N	24W
Dominguez	Richfield Oil Corp.	Hobson-State	5	14	20S	21E
Rincon	Tidewater Associated Oil Co.		1-A	26	21S	17E
McKittrick	Bandini Petroleum Co.	Wheeler	5	29	21S	17E
Kettleman North	Superior Oil Co.	Huffman	15	24	31S	22E
	Brookshire Oil Co.		2	32	31S	23E
Midway	D. K. McLennan		8	6	11N	23W
	Sunset Oil Co.	Gordon	1	14	29S	27E
Sunset	B & O Drilling & Explor. Co.	Pombeo-Keller	8	7	28S	29E
Fruitvale	Shell Oil Co.	Caldwell	63	31	28S	29E
Round Mountain	C. & O. Oil Co.		37	26	30S	24E
Kern River	Standard Oil Co.	Tupman	3	25	30S	14E
Elk Hills	Standard Oil Co.					
Coalinga						
ABANDON						
Playa del Rey	Geo. F. Getty, Inc.	V	3, 4, 7	28	2S	15W
El Segundo	Geo. F. Getty, Inc.	E. S.	1	7	5S	14W
Montebello	Richfield Oil Corp.	Estrada	1	8	2S	11W
	The Termo Co.		3	20	4S	12W
Long Beach	Shell Oil Co.	Andrews	6	20	4S	12W
	W. F. Higgins	Higgins	6	24	4S	13W
	Alum. Rock Oil Co.	Alum Rock	1	30	4S	12W
	Imperial Gypsum & Oil Corp.	Dodge	1	34	5S	11W
Huntington Beach	Reid & Berliner, Inc.	Reiber	2	6	6S	11W
Santa Fe Springs	Shell Oil Co.	G. H. N.	25	31	2S	11W
		Stuaber	20	6	3S	11W
Elk Hills	Richfield Oil Corp.	Buena Vista	A-1	7	31S	25E
Lost Hills	The Texas Co.	Overall	1-A	33	25S	20E
Kern County	The Ohio Oil Co.	T. I. T.	D-1	21	11N	19W
	Union Oil Co.	Morrison	1	31	11N	22W
	Sunset Oil Co.	Sunset Starr	1	17	30S	29E
Round Mountain	Shell Oil Co.	Olcese Estate One	1	16	28S	29E
	Eastmont Oil Co.	Olcese	3	16	28S	29E
	The United Oil Co.	Transport	2	32	12N	23W
Sunset	Southwestern Development Corp.	KCL	1	15	29S	27E
Fruitvale	Apex Petroleum Corp.		10-4	10	28S	27E
Kern River	Tidewater Associated Oil Co.	Newhope	1	29	27S	27E
Poso Creek	Ring Oil Co., Ltd.	Vedder-Hyde	1	30	26S	28E
Mount Poso	Standard Oil Co.		13 & 14	22	19S	15E
Coalinga	Petaluma Exploration Co.	Bourke	1	33	5N	6W
Sonoma County	Two Rock Oil Corp.	Two Rock	1	29	5N	8W
Kings County	T. G. Norell	Guess	1	7	21S	21E

Summary	Past Three Weeks	Preceding Two Weeks	To Date This Year	To Date Last Year
Total New Wells	79	60	1137	773
Total Deepened or Redrilled	36	23	478	593
Total Abandoned	30	17	370	335

California Crude Oil Production

For Two Weeks Ending Sept. 14, 1937

Field	Sept. Daily Quota	Average Daily Production	Excess
San Joaquin Valley			
Belridge—North	14,070	15,614	1,544
Belridge—South	1,950	1,790	*160
Buena Vista	17,775	17,462	*313
Coalinga—East	11,760	11,314	*446
Coalinga—West	5,225	5,559	339
Coffee Canyon	4,290	4,984	694
Edison	3,535	4,057	522
Elk Hills	8,630	10,540	1,910
Fruitvale	8,805	8,975	170
Greeley	1,850	1,667	*183
Kern Front	10,420	11,045	625
Kern River	5,245	2,397	*2,848
Kettleman No. Dome	78,790	79,861	1,071
Lost Hills	4,705	3,580	*1,125
McKittrick	3,760	4,564	804
Midway-Lakeview	10,140	17,272	7,132
Midway-Mariepos	36,810	39,464	2,654
Mount Poso	16,065	18,310	2,245
Mountain View	16,840	17,650	810
Round Mountain	7,955	8,211	256
Ten Section	2,630	3,289	659
Other Fields	2,710	2,738	28
TOTAL	273,955	290,343	16,388
Coastal District			
Elwood	7,470	8,332	862
Rincon	2,645	3,084	439
Santa Maria	14,800	12,720	*2,080
Santa Paula-Newhall	5,250	4,996	*254
Ventura Avenue	31,940	34,962	3,022
Other Fields	6,505	7,037	532
TOTAL	68,610	71,131	2,521
Los Angeles Basin			
Alamitos Heights	1,265	1,675	410
Brea-Olinda	8,945	5,981	*2,964
Coyote—East	2,840	4,046	1,206
Coyote—West	9,295	7,865	*1,430
Domingues	24,555	29,536	4,981
El Segundo	3,865	11,258	7,393
Huntington Beach—New	16,690	20,912	4,222
Huntington Beach—Old	14,460	16,491	2,031
Inglewood	15,990	15,805	*185
Long Beach	54,470	58,200	3,730
Montebello-Extension	7,820	8,354	534
Playa del Rey	7,775	8,154	379
Richfield	7,615	9,172	1,557
Rosecrans-Athens	2,430	3,822	1,392
Santa Fe Springs	38,390	42,721	4,331
Seal Beach	7,675	7,967	292
Torrance-Hermosa and Extension	6,655	7,614	959
Wilmington	36,000	56,244	20,244
Other Fields	1,865	1,905	40
TOTAL	268,600	317,722	49,122
STATE TOTAL	611,165	679,196	68,031

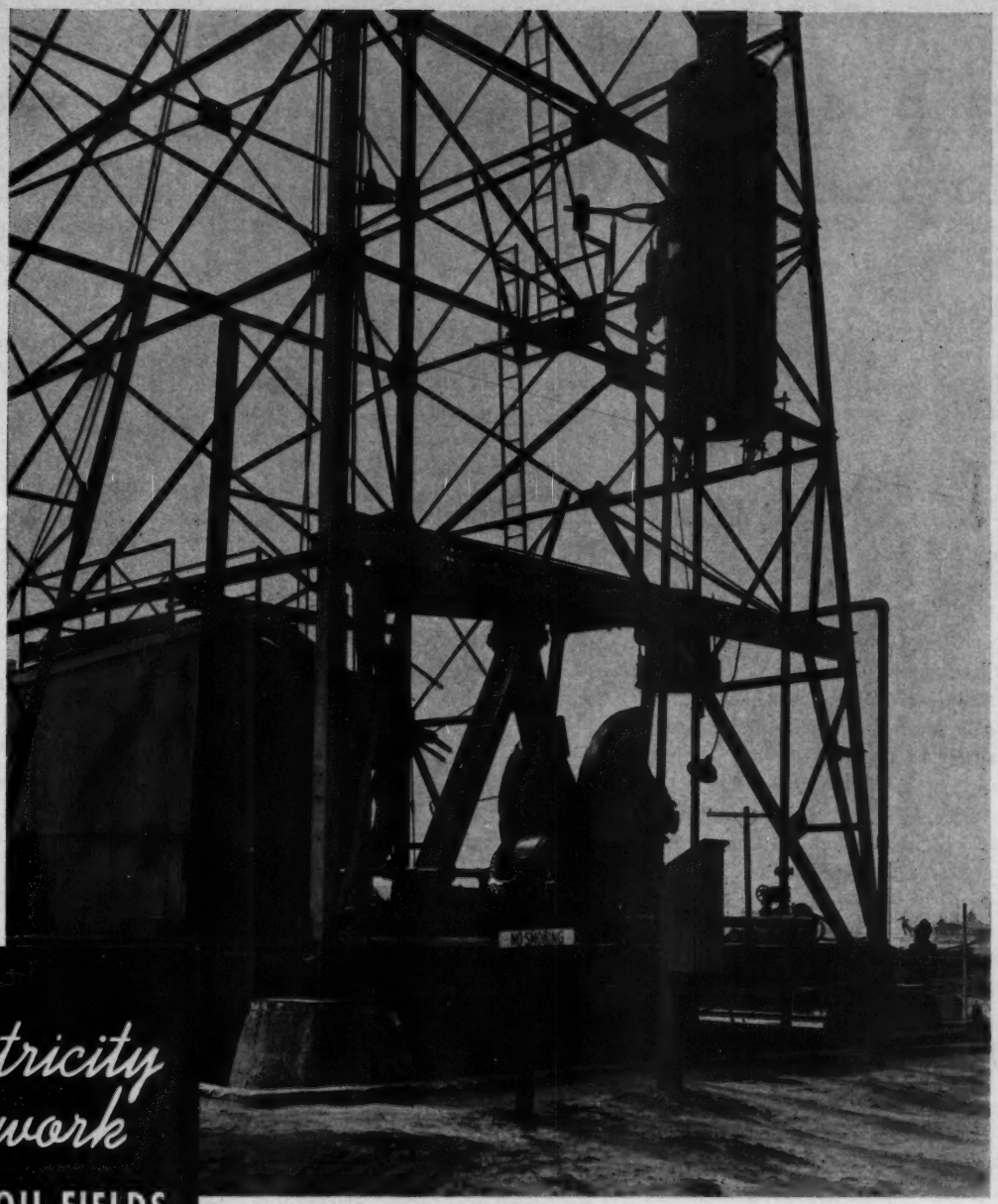
*—Shortage.

Richfield Suspends Outpost Southeast Of Elk Hills

More than a half mile to the south and east of the productive limits of Elk Hills, Richfield Oil Corp. has suspended Buena Vista No. 1A, at 3700 ft. The well is located in sec. 7, 31-25.

McDonald Drilling Round Mountain Extension

Encouraged by the success of Calif. Western Oil Co. in extending the Round Mountain field to the northwest, H. A. McDonald of Ventura made location for a test a half mile further along the trend, and is coring oil sand at 1950 ft. in Larkin No. 1 near the east quarter corner of the nw¼ of sec. 12, 28-28.



Electricity at work

IN THE OIL FIELDS

ANOTHER COMPLETE CHANGE-OVER TO ELECTRIC DRIVE

The assurance of lower operating cost, continuous service and increased production is the determining factor in the many change-overs to electric drive throughout Southern California fields. The above installation consists of an Ideco floor unit, operated by a 25 H.P. motor and a V-belt drive. The simplicity of this equipment and the fact that practically no attention is required, makes it the preferred type among oil operators everywhere. For any information concerning the use of electricity by the petroleum industry, get in touch with your Edison office. No charge is ever made for this service.

SOUTHERN CALIFORNIA EDISON COMPANY LTD.

9/37

Los Angeles Basin

G. P. And U. P. Get Big Producers At Wilmington

Spectacular completions by the Union Pacific Railroad and the General Petroleum Corp. headlined developments in the Wilmington field during the past two weeks. The Union Pacific astounded operators in the dsitrict by completing its No. 20 flowing at the rate of 7720 bbls. per day of 27 gravity clean oil with 3300 mcf of gas. Production is com ing from both upper and lower Terminal zones, the casing record showing the 8⅝ includes 353 ft. of perforated and is landed at 3575 ft. The 6⅝ liner included perforations from 3600 to 3850 ft. and from 3880 to bottom at 4090 ft. Both strings were cemented through perforations, the 8⅝ at 3190 ft. and the 6⅝ at 3600 ft. After establishing its potential, the well was beaned back to a 2500-bbl. rate with a 500-pound flow pressure.

The General Petroleum Corp. added the second big well in the completion of Ford No. 20. Drilled to 4100 ft. and with 8⅝ casing cemented through perforations at 3005 ft., the well was completed at a 4500-bbl. rate, later establishing a potential of 5700 bbls. of 25.7 gravity clean oil. Both wells are in the area held entirely by U. P. and G. P. and are producing from the Terminal zones, which are consistently prolific in this part of the field.

More important to the development of the field is the completion by the Bankline Oil Co. of P.T.C. No. 15, a northeast outpost at the corner of Anaheim and Sigsbee. This well, with 8⅝ cemented at 3018 ft. and bottom at 3318, was brought in for an initial flow of 515 bbls. in 15 hours. Present production, under curtailment, is 644 bbls. of 22 gravity clean oil per day.

The Royalty Service Co. deep test in the central town lot area, Gilmore 842-2, has not as yet lived up to expectations. After being drilled to 5775 ft. the hole was plugged to 5380 ft. and a string of 8⅝-inch casing, including 300 ft. of perforations, was landed on the plug and cemented through perforations at 5080 ft. Swabbing failed to make the well flow and it was completed on the gas lift making 375 bbls. cutting 20% water. It has now been taken off production and efforts are being made to locate the source of the water.

Sharby Oil Abandoning East Del Rey Test

The second test of the Santa Monica Dairy property by the Sharby Oil Co., located a mile east of the Venice field, is being abandoned at 7522 ft. Nodular shale was cored from 7130 ft. to 7504 ft. at which point a sand giving good cuts and strong gas odors was picked up. The sand body continued to bottom, but the last two feet appeared to have less oil saturation and when a formation tester was set at 7500 ft., only salt water was recovered.

Standard Gets Inglewood Well

Another good completion was scored in Inglewood recently by Standard Oil Co. when K & I Rubel No. 25 was completed flowing 2276 bbls. of 30.1 gravity oil, cutting less than 1%, from a depth of 3938 ft. The well has since been shut in under curtailment agreement.

Rindge 23 of the Shell Oil Co. was completed from 3868 ft. with an initial flow of 1700 bbls. of clean oil.

Hawthorne-Sepulveda Drilling Active

Drilling continues to be fairly active in the Hawthorne-Sepulveda area at Torrance though recent completions there have averaged less than 100 bbls. per day. C.C.M.O. Co. is deepening Del Amo No. 34 below 4875 ft. after failing to obtain commercial production from the 4000-ft. zone. Four Way Oil Co. obtained mostly water on a production test of its Fee No. 1 well from 4630 ft. The test of the I. V. Oil Co. on the Quant lease is also wet from 4250 ft. Loma Verde Oil Co. is testing Bass & Goodknight No. 12 at 4875 ft., and Torrance Petroleum Co. has E. H. Grubb No. 3 on a production test from a plugged depth of 4745 ft. Keystone Consolidated Oil Co. is below 2800 ft. with Lupin No. 2, and the initial test of B.C.L. Oil Co. is at 3620 ft.

Newport Mesa Well Abandoned At 6450 Ft.

After pumping tests of upper zone showings indicated water with only traces of oil, the deep test of Mesa Oil Co. on the Banning property near Newport has been abandoned. The well, which is located in sec. 29, 6-10, was drilled to 7866 ft. when the drill pipe was stuck in the hole. Faced with a long fishing job, the company decided to abandon the lower portion of the hole. The drill pipe was recovered to 6500 ft., and the hole plugged to 6450 ft. Casing was cemented at 5500 ft. for production tests of that interval.

Activity At Montebello Practically At Standstill

Activity at Montebello is nearly at a standstill at the present time. Richfield Oil Corp. is trying to put Ciocca No. 2 on production from 5966 ft., but the well is apparently wet. The only other active well in the field is The Texas Co. Baldwin No. 17, which is plugging back from original depth of 8046 ft.

Ohio Gough No. 6 Makes 3050 Bbls.

Development in the northern sector of the El Segundo field was given new impetus with the recent completion of the Ohio Oil Co. Gough No. 6 with a flow of 3050 bbls. of clean 27 gravity oil. Drilling was stopped at the top of the schist at 7413 ft. after coring 70 ft. of oil sand and conglomerate.

In the town-lot area, Richfield Oil Co. Elsie No. 2 cored into the schist at 6910 ft. without encountering a conglomerate zone, a condition similar to that found in The Texas Co. Security No. 4 and other big wells in this field. Sunshine Oil Co. Elsie-Edison No. 1 in the same area also passed directly from the nodular shale into the schist at 6950. Both wells will be drilled further into the fractured basement rock before completing.

The Texas Co. Security No. 4, offsetting the Standard Oil Co. refinery, was put on production for more than 2000 bbls. from 125 ft. of the fractured schist. Total depth of this hole is 7233 ft. with casing cemented at 7085 ft. Security No. 3, with bottom at 7162 ft., is on an open hole production test and is flowing at the rate of 320 bbls. per day cutting 3%. The interval being tested is from the casing shoe at 7049 ft. to bottom.

Royalty Service Co. Buffington No. 2, after coring 60 ft. of conglomerate and 20 ft. of schist, cemented a water string at 7275 ft. and completed on the compressor for 280 bbls. of 26 gravity clean oil.

Evidence that the field will not extend further to the south exists in the fact that Richfield was unable to shut off the water in Santa Fe No. 1 and has indefinitely suspended work on the well.

Standard Oil Co. has two wells nearing production on the refinery land with No. 3 at 7000 ft. after picking up the schist at 6945 ft. and No. 2 coring shale at 7010 ft.

The Union Oil Co. in El Segundo No. 3 cored good oil sand, not the usual conglomerate, from 7460 to 7480 ft. and has stopped to set casing for a test.

The easterly outpost well, Tidewater Associated Oil Co. Leuzinger No. 1, is drilling below 4800 ft.

Yorba Linda Area Active With Shallow Wells Starting

Considerable interest has been aroused of late in the Yorba Linda area to the north of Richfield where low gravity oil is being produced from a comparatively shallow depth. Richfield Consolidated Oil Co. completed its No. 1 well on the pump recently from a depth of 1760 ft., making 14.5 gravity oil at a rate variously reported at from 125 to 200 bbls. per day. Initial test of Signet Oil Co., located to the southwest of the Richfield Consolidated well, has been completed on the pump from 1947 ft., making an estimated 150 bbls. per day. A production test is being made of Bachmann Petroleum Corp. Tuffree No. 1, top of the oil sand being encountered at 1755 ft. in this well. Work is getting under way on four more projects. Midstate Oil Co. is drilling Oliver No. 1 in the northwest quarter of sec. 22, 3-9, and derrick has been erected for Angelus Oil Corp., on the Jacobs property in the same section. Approximately 150 ft. to the west of the Signet well Beverly Hills Petroleum Co. is drilling Fricke No. 1, and Hjorth & Mohr of Long Beach have rig up for Berhn No. 1 in sec. 22.

Union Oil Redrilling Bell 100 At 10,220

Union Oil Co.'s deep test at Santa Fe Springs, Bell No. 100, is being redrilled below 10,220 ft. after attempts to recover drill pipe stuck in the hole at 9500 ft. met with failure. The well was originally drilled to 10,789 ft.

Hildon Gets New Flood Control Well

A second nice well was put on production in the Long Beach extension area Saturday afternoon, Sept. 18, when the Hildon Oil Co. Amebco No. 2 started to flow after nearly 24 hours of swabbing. The well, located 500 ft. to the south and apparently 100 ft. lower structurally than the 500-bbl. discovery well, is 4235 ft. deep with 9-inch casing cemented at 4085. Although no accurate gauge was available, production Monday morning was estimated to be 900 bbls. of 24 gravity oil cutting less than 1%. There is considerable tendency towards heading and the operators are experimenting with different bean sizes in an effort to steady the flow.

Hildon has driven piling for Flood Control No. 3; located 1000 ft. north of the two Amebco producers. This well will be very helpful in determining the northerly extent and trend of the structure.

The Union Oil Co. is preparing to erect a derrick for Oil Operators No. 1, which will be drilled as an offset to both producing wells.

Shell, Union Rosecrans Completions Good

Both Shell Oil Co. and Union Oil Co. scored good completions at Dominguez recently with the former getting a 1200-bbl. clean well in Reyes No. 91 from 7732 ft. and the Union putting Callender No. 54 on production for 1595 bbls. per day cutting 18.6%. Both wells are producing from the eighth Callender zone.

Three Wells Active In East Coyote

At East Coyote, the Standard Oil Co. is preparing to drill its eleventh well on the Coyote Two lease, Bartholomae Oil Corp. Stern No. 5 at 4700 ft. is reaming to set a water string and the Tidewater Associated Oil Co. is completing Anaheim No. 42 from a depth of 3650 ft.

San Joaquin Valley

Mountain View Gets Four Extension Wells

The southeast extension of Mountain View assumes a real importance with the recent completion of four good wells. Mohawk Petroleum Co. Earl Fruit No. 5 in the sw corner of the se¼ of sec. 4, 31-29, was completed for better than 500 bbls. daily of 28.7 gravity clean oil; P. H. Greer completed Perrel No. 1, an offset to the south, for 520 bbls. and Perrel No. 2 to the east for 900 bbls. per day. North American Oil Consolidated's Tupman No. 1 in the ne corner of the nw¼ of sec. 9, with initial production of 1410 bbls. per day, extended the area to the south and west by one well location. On the strength of these completions, Hogan Petroleum Co. has started Symons-Bankline No. 4 in the se corner of the sw¼ of sec. 4 and Mohawk has gone into the old Earl Fruit No. 4, which was drilled to 5778 ft., in an attempt to whipstock across the fault and obtain the production found by the other wells at 5550 ft.

The Ohio Oil Co. is drilling Derby No. 6 as an easterly outpost in section 33, 30-29; American Exploration Co. is preparing to redrill Gilbert No. 1 which offsets its Clemens No. 1, the field's most northeasterly producer in sec. 18, and Hogan Petroleum Co. is trying to locate the source of persistent water trouble in Peters No. 3 in the ne corner of sec. 5, 31-29.

Two Wells Start In Rio Vista Gas Field

Activity continues in the Rio Vista gas field with Amerada Petroleum Co. announcing the location of a new well on the Sacramento and San Joaquin Irrigation land in sec. 24, 4n-2e and Tracy Development Co. starting operations on the Hanson property in sec. 25. If successful, these projects will prove an easterly extension to the field.

Three Companies To Drill In Fresno County

After a period of inactivity, Fresno county again enters the wildcat limelight with announcements by three companies of intention to drill. The Pure Oil Co. has acquired a large block of leases from the Southern Pacific Land Co. and has made a location for a test in sec. 31, 18s-17e, about eight miles northeasterly from the nearest Coalinga production and within two miles of the extensive core hole program drilled by Western Gulf several years ago. In the much prospected Jacalitos Hills south of Coalinga and westh of Kettleman, the Jacalitos Petroleum Co. is preparing to drill in sec. 14, 21s-15e. Honolulu Oil Co. has leased extensive acreage 10 miles northwest of the city of Fresno and will drill an exploratory test in sec. 36, 12s-19e.

Kenda 4-18J Coring Below 11,000 Ft.; Outlook Bad

The Kettleman deep zone discovery well, Kenda's 4-18J, is now coring ahead in gray sand below 11,100 ft. Although faint cuts show in the cores, the outlook for production has been none too good below the 10,861-ft. level.

Bandini Petroleum Co. has taken over the quitclaimed portion of the Tidewater Associated Whepley lease in sec. 35, 21-17, expecting to redrill and deepen the 8387-ft. abandoned No. 5 well. This and the Superior Oil Co. Huffman No. 5, which is redrilling below 8300 ft., will be taken to the Eocene and will give valuable data regarding the extent of this zone.

The Texas Co. Abandons North Lost Hills Test

Another attempt to develop production to the northwest of Lost Hills failed with the abandonment of The Texas Co.'s recent test. Overall No. 1 in sec. 33, 25-20.

Standard Greeley Makes 4500 Daily

With bottom at 7815 ft. and 9-inch casing cemented at 7690 ft., Standard Oil Co. completed No. 11-7 at Greeley making more than 4500 bbls. per day of 52 gravity clean oil on potential test. This well, located 330 ft. south and 1650 ft. west from the ne corner of sec. 20, 29-26, is nearly a mile due east of the field's discovery well and all but proves up lands held by Superior, Texas and Shell in sections 16 and 21 to the east.

Four miles south and east of the Standard's Greely production, the Superior Oil Co. is making good time on KCL-9, a wildcat test in sec. 3, 30-26; the well, spudded Aug. 21, is now drilling below 7200 ft.

After making several inconclusive formation tests in Kernco No. 34-1 in sec. 34, 28-25, Union Oil Co. ran a string of tubing and made a swabbing test with open hole from 10,245 ft. to bottom at 10,424 ft. The fluid, partly oil, was swabbed to 7500 ft. and showed only a 1000-ft. rise in four hours. The well is now being cored ahead in shale and gray sand which occasionally shows oil. Present depth is below 10,625.

Meridian Gets Good Well At Fruitvale

Meridian Oil Co. completed Turner No. 5, a northeasterly edge well at Fruitvale, for an initial production of 360 bbls. per day of clean oil from a depth of 3043 ft., which will renew interest in this portion of the field. At the southerly edge of production, Western Gulf completed Red Ribbon No. 7 for more than 700 bbls. gross with a cut of 11% which cleaned up to 4% when the well was beaned back to 265 bbls. Red Ribbon No. 8, one location to the south, has cemented 8⅝-inch casing preparatory to completing.

Eastmont Abandons Round Mountain Well

In the East Round Mountain district, Eastmont Oil Co. found the Vedder zone barren at 1835 ft. in Olcese No. 3 and abandoned, moving the equipment to the No. 4 location in the same section (16, 28-29). The Pebble Beach Oil Co. has made a location for Olcese No. 2 in the se cor. of sec. 9, hoping in this attempt to be on the right side of the fault and encounter the production developed by Eastmont to the south. Water trouble continues to be the jinx in the Shell Oil Co. Olcese Estate No. 1 in the center of sec. 16. After plugging bottom from 1908 back to 1888 and cementing a blank liner at 1875 ft., production was only 50 bbls. per day with a cut of 20% water.

Activity General In Midway-Sunset Area

Activity continues general throughout the Midway-Sunset district with Standard Oil Co. completing No. 78, sec. 33, for 450 bbls.; Lilly Oil Co. bringing in No. 1, sec. 36, for 250 bbls.; and The Texas Co. and C.C.M.O. Co. in the process of completing one each. New locations have been made by Jos. L. Fainer in sec. 22, Richfield Oil Co. in sec. 6, The Texas Co. in sec. 32, and Standard Oil Co. in secs. 13, 23, and 25.

Buttes Deepening No. 3 In Sutter County Area

In the Marysville Buttes area of Sutter county, Buttes Oil Fields, Ltd., is reconditioning the 5341-ft. No. 3, expecting to deepen to about 6100 ft. in search of the gas production developed in No. 4.

Standard Gas Test At Stockton Abandoned

Standard Oil Co's. exploratory test the Stockton area in San Joaquin county, Woods Community No. 1, in sec. 24, 1n-5e, has been abandoned at 7000. All tests made for gas were unsuccessful.

Ring Still Successful In North Mt. Poso

ing Oil Co. continues to be the most successful developer of the north Mt. Poso area with the completion of Loudon No. 1 (sec. 32, 26-28) for 550 bbls. of 15.6 gravity oil and no water. Top of the Vedder zone was cored at 1690 ft. Ring is now completing Blackfoot No. 2 in the same section.

Sunset Oil Co. will again be active in the field with three new projects, Bowles Nos. 3 and 4 in the sw¼ of sec. 21, and Vedder No. 4 in the nw¼ of sec. 28. Golden Bear Oil Co. is preparing to drill on the Hyde permit near the center of sec. 32 and the Vedder interests have five wells under way, Nos. 1 and 2 on the Lambert lease being on production tests.

Trico Oil & Gas Co. in its try for a northerly extension of production in sec. 20, 26-28, failed to find the Vedder zone productive and has abandoned Allen No. 1 at 1871 ft.

West of the proven area in sec. 28, 27-28, Union Oil is completing Tribe No. 12 from 1855 ft. after coring the Vedder at 1832 ft. Rig is up for Tribe B-2 a quarter of a mile south of present production on the lease.

Standard Drilling Yolo County Wildcats

In Yolo county, where extensive preliminary work has been carried on by various major companies over a long period of time, Standard Oil Co. is drilling at 3900 ft. on an exploratory test south of Woodland. Location is in sec. 32, 9n-1e on the E. E. Hooper property. A great deal of land is under lease in large blocks in the general area, and the test is being watched with considerable interest. A second test, Peter Cook No. 1, twenty miles to the north in sec. 32, 12n-1w in the Dunnigan Hill area is being drilled by the company below 2800 ft. This well is said to have entered cretaceous formations at 2000 ft.

Calif. Western Active At Round Mountain

Northwesterly development is being carried on at Round Mountain by California Western Oil Co. with the drilling of wells Nos. 5 and 6 in sec. 12, 28-28. Well No. 4 was recently completed for more than 400 bbls. of 14 gravity clean oil.

Test Planned For Area Northwest Of McFarland

The area northwest of McFarland is to be tested by the Sandstone Oil Co. which has made a location in sec. 34, 25-25. The well will be drilled approximately a mile west of the abandoned General Petroleum Co. Stiles No. 1, which was carried to 5765 ft. some years ago and is not now considered an adequate test of the area.

Birch Ranch Test In Doubtful Class

The McKittrick test of the Birch Ranch and Oil Co., Lovitt No. 1 in sec. 10, 30-21, nearing 3700 ft., is falling more and more in the doubtful class as cores are almost entirely of shale showing very steep dips. It is thought the project will soon be abandoned. In the adjoining section to the east, the Puente Oil Co. completed Home Lease No. 24 as a small producer from 1300 ft.

Seaboard Suspends Deep Wasco Project

Drilling operations have been indefinitely suspended by Seaboard Co. on its exploratory deep test south of Wasco in sec. 26, 27-24. A total depth of 10,244 ft. was reached, the formation below 8000 ft. being predominately brown shale. It is understood that the well showed considerable oil and gas in the zone immediately below the shoe of the casing at 9148 ft., but no tests are contemplated at the present time.

Four miles to the northwest in sec. 8, 27-24, the second well being drilled by Continental Oil Co. is at 10,800 ft., a string of 10¾-inch casing having been set at 5512 ft.

LAUGH THIS OFF

One of the saddest cases ever brought to our attention concerns the son of a well known oil worker, a lad of very refined taste, who so detested bad language that every time he heard a nasty word it made the cold chills run down his spine. Last week he was frozen to death when his dad caught his finger in the car door.

And **Joe Scanlon,** the Fillmore Irishman, tells another sad story about a local boy who dashed to the deathbed of a rich uncle only to find that all the best seats were already taken.

It sounds a bit fishy, but Joe also informs us that a prominent refinery official of Los Angeles is being sued for dephlegmation of character.

On the other hand, **Frank Frary** knows an oil man who has worked for the same boss for 20 years but is now contemplating a divorce.

And **Clarence Burt** is surprised that in spite of the danger of foreign entanglements so many people are still eating spaghetti.

There is no truth, however, in **Frank Morgan's** story that the geologist with the booming voice has been offered a job as a fog horn on a private yacht.

Although stranger things have happened, **Doc Watson,** for instance, swears that a man well known to all of us, recently picked up a silver backed hair brush in mistake for the mirror belonging to the same set, and after staring at it intently for a few seconds, went out to the barber shop for a shave.

"It looks like you, all right," said **Charlie Schneider** as he gazed at the stenographer's photograph, "but it seems awfully quiet."

And while the smart boys mount the ladder of success rung by rung, **Bill Johnston** points out that the telephone girls do the same thing ring by ring.

Also, **Phil Magruder** declares that if he had to choose his vocation over again that he would unhesitatingly vote again for some phase of natural gasoline manufacture. It's such an absorbing business.

"Did you ever think seriously about getting married?", asked the lad in the boarding house, and his buddy replied, "Yes, I did, so I didn't."

Now comes **Charlie Snavely** telling an unbelievable story about a farmer who was such an atrocious liar that he had to get someone else to call the hogs at feeding time.

And **Jack Maddux,** who should know, declares that if they do nothing else, long legs promote lofty thinking.

By the way, we have just discovered that the wife of a Whittier pumper has been using a pair of Chinese back scratchers for salad forks for two years, and even her best friends won't tell her.

Which, however, is no worse than the rousty who said, "I'll take a stack of red ones," when the boarding house lady brought in the sliced beets.

Fred Matthews next points out that it may be more than mere coincidence, the fact that a local college is now in the process of revamping a greenhouse into a dormitory for freshmen.

Reminding us for no particular reason of the modest sophomore who was simply tired to death being right all the time.

And **Gil Reeve** reports that the wife of a prominent oil executive was recently awarded a divorce, but the judge decreed that the husband should be permitted to see their Boston terrier once a month.

It is an amazing fact that a sales manager for one of the larger oil companies has made the same speech to the same group of people several times without being caught at it. This is done by the simple expedient of hollering in different places each time.

Wherewith, we again retire from the arena. Don't forget that you can get a good night's sleep even in a third rate hotel, if you sneak up to bed between 7 and 9 p.m. when the flies are busy in the dining room.

And don't get chesty when your wife refers to you as a model husband. In the first place a model is merely a small imitation of the real thing, and in the second place it's only the working models that are any good.—R. S.

There were only 255 manufacturers whose products were listed in the Composite Catalog for the year 1935.

But this number increased to 306 in the 1936 Edition, a majority of whom included comprehensive catalogs of modern oil tools and equipment.

And now in the COMPOSITE CATALOG for 1937 you will find 353 manufacturers represented, with an even greater percentage of complete catalogs. That is why modern oil men always "Look for it first in the COMPOSITE CATALOG."

For the twelfth consecutive year

ASSOCIATED

Football Sportcasts

AGAIN THIS YEAR—as in eleven years past—Associated brings you the football Sportcasts—*another Associated service.* ★ With each broadcast is a sincere invitation from your Smiling Associated Dealer. He wants you to come in and get acquainted—to learn how helpful he can be in keeping your car operating smoothly, safely and economically. Let's Get Associated.

FLYING A

CYCOL

another ASSOCIATED service

—Photo by Paul C. Farmer, American Liquid Meter Co.

Getty El Segundo Well Latest Of Shallow Blowouts

Other Basin wells in same general area also hit shallow gas sands, with attempts made to develop the gas commercially. Wells blow for a few days, then die.

The northeastern section of El Segundo provided the basin's most spectacular occurrance in some time when the Geo. F. Getty well on the Duly property in the center of sec. 7 blew in from the 1200-ft. zone as a flaming gasser.

While pulling a core from 7119 ft., the well began to show some life and a high fluid level was maintained with 75-pound drilling mud. As the last stand was removed, mud began to flow in increasing volume, soon shooting the remaining double of drill pipe and core barrel into the derrick and igniting the tremendous volume of gas. The terrific heat soon collapsed the steel rig which fell in such a way as to snuff the fire without stemming the flow of gas, sand and water. After two days of steady blowing, chunks of shale intermittently cut off the flow until sufficient pressure accumulated to throw them high in the air—one enterprising observer timing the fall of a large piece from its highest point as twelve seconds. Eventually sub-surface caving choked the flow and complete surrender was accomplished by pumping in heavy mud.

Shallow gas blowouts are by no means a novelty in this general area. A glance through the records discloses many similar occurrences, the latest being the Ohio Oil Co. Gough 3 which blew in while pulling drill pipe on April 14 of this year. Hole had been made to 7094 ft. and although the drilling mud appeared gas-cut at times, no alarm was felt; but with 35 stands remaining to be pulled the high pressure gas overcame the lowered mud column.

Old-timers recall the gas excitement of 1921-25 caused by the blowing out of Kitselman-Bohn No. 1, a mile to the east of the present El Segundo field, from a depth of 1360 ft. The Standard Oil Co. became interested and drilled two tests for gas, Bohn No. 1 in the sw¼ of sec. 8, 3-14, which blew out from 1112 ft., and Landowners No. 1, which tried without success to produce gas from 1035 ft. In 1924, McFadden-Bering in the same section made two attempts at production, the first well blowing in out of control and junking itself in twenty hours and the second producing nothing at all. The Milwaukee Fountain Trust entered the field on the Leuzinger property, lost the hole via the blowout route, and turned its holdings to the Midway Gas Co. which in two more tries tested zones from 1100 ft. to 1550 ft. but could not make a producer. By this time it was apparent that while dangerously high pressures were to be found in the shallow sands, there was not sufficient volume to make commercial production.

STOP SHAKING
YOUR LINES TO PIECES

Use GOODALL SPARTAN Pump Suction Hose with FLANG-LOK connections. No nipples to cut out or reduce the flow. Built with a special abrasive-resistant inner lining to resist wear. Every inch of hose is flexible because nipples are eliminated.

INSTALL ONE NOW. IF YOU ARE NOT COMPLETELY SATISFIED, YOUR MONEY WILL BE REFUNDED.

GOODALL - MECHANICAL CORPORATION

LOS ANGELES - SAN FRANCISCO - SEATTLE

Taxable Gasoline Sales 152,538,426 Gals. In July

California sales require production of 351,471 bbls. of crude per day, 52.95% of state's production during same month. Daily average sales for seven months gain 7.43%.

California taxable gasoline sales continue to hit new peaks, even though sales during July were slightly under those for June. For the first seven months of the year, however, sales were 993,948,968 gallons, an increase of 64,219,876 gallons over sales of 929,729,092 gallons during the similar period of 1936. In barrels, the period's increase was 1,529,044.4, from 22,136,407 in 1936 to 23,665,451.4 in 1937, which increase equals 7.43%.

July sales were 152,538,426 gallons, a decrease of 3,309,771 gallons from June's total of 155,848,197, and July's tax was $4,576,152.78, bringing the total tax for 1937, to July 31, to $29,566,045.83, an average tax of $4,223,720.26 per month. This tax, of course, is not net, approximately 10% of it being refunded as having been levied upon gasoline not used for highway purposes.

Daily average sales of gasoline in California for the first seven months of 1937, in barrels, totaled 111,629.5, an increase of 7702.7 bbls. per day over the 1936 total of 103,926.8 bbls. daily. The year's daily average figures are slightly under those for July, which averaged 117,157 bbls. of gasoline sales per day.

Figuring that it took three barrels of crude to make one barrel of gasoline, the generally accepted working basis, gasoline consumption in California alone during July required crude production of 351,471 bbls. per day, which was 52.95% of the state's production during that month.

These figures apply only to California, and do not take into consideration any offshore shipments nor deliveries to the Pacific Northwest.

The ten leaders, in order of taxable sales, were: Standard, Shell, Union, Richfield, Tidewater Associated, General Petroleum, The Texas, Wilshire, Mohawk and Hancock. During June, the line-up was: Standard, Shell, Tidewater Associated, Union, Richfield, General Petroleum, The Texas, Wilshire, Mohawk, and Hancock.

Of the 163 distributors of gasoline listed by the State Board of Equalization in its report on the gasoline tax for July, 40 sold 300,000 or more gallons of taxable gasoline during the month. These companies, in order of taxable sales, follow:

	Taxable Sales	Total Gallonage
Standard Oil Co.	27,810,950	79,495,852
Shell Oil Co.	19,579,814	28,768,125
Union Oil Co.	15,273,355	23,320,109
Richfield Oil Corp.	13,046,246	16,667,461
Tidewater Associated Oil Co.	12,434,604	18,328,719
General Petroleum Corp.	11,049,207	28,730,523
The Texas Co.	9,056,393	14,807,301
Wilshire Oil Co.	7,630,054	7,668,534
Mohawk Petroleum Co.	3,766,373	3,996,918
Hancock Oil Co.	3,183,486	3,274,764
The Caminol Co.	2,618,748	2,644,484
Macmillan Petroleum Corp.	2,564,356	2,755,524
Estado Petroleum Corp.	1,710,089	1,710,089
Olympic Refining Co.	1,639,523	1,641,218
The Norwalk Co.	1,615,564	2,335,682
Seaside Oil Co.	1,436,283	3,790,031
Exeter Refining Co.	1,184,497	1,184,522
Pacific States Oil Terminals	1,153,959	2,022,372
R. R Bush Oil Co.	1,137,192	1,294,683
St. Helens Petroleum Co.	1,006,726	1,020,264
Bachmann Petroleum Corp.	925,454	925,972
Socal Oil & Refining Co.	887,029	887,029
Fletcher Oil Co., Inc.	868,413	2,022,372
Envoy Petroleum Co.	868,379	868,379
M. M. McCallen	854,018	1,080,695
Edington Oil & Refining Co.	837,799	837,799
Rothschild Oil Co.	776,368	776,368
Operators Oil & Refining Co.	755,612	755,612
Los Nietos Producing & Refining Co.	710,180	3,238,812
El Tejon Refining Co.	698,564	706,435
Triangle Oil & Refining Co.	677,316	677,316
The Petrol Corp.	571,762	2,814,875
Kreiger Oil Co.	566,671	567,216
Eagle Oil & Refining Co.	442,766	442,766
Elm Oil Co.	439,033	439,033
Aromalene, Inc.	425,388	425,388
J. O. Moffett	339,625	339,640
El Camino Refining Co.	323,661	323,661
Mercury Petroleum Corp.	319,605	319,605
Harbor Refining Co.	309,443	315,429
All others	1,043,921	.....
Total July	**152,538,426**	**284,221,577**
Total June	155,848,197	
Decrease	3,309,771	
Total to July 31, 1937	**993,948,968**	

The CAVINS PERFORATION WASHER

The Cavins Perforation Washer is a combination of the Up-Trip and Pack-Off Shoe, (shown here), with The Cavins Automatic Hydraulic Suction Bailer.

A Valuable Aid In *ELIMINATING* SAND BRIDGES

The source of a sand bridge can be eliminated by thoroughly washing the perforations at the point where loose sand runs into the well, with The Cavins Perforation Washer. If you are troubled with sand bridges, an occasional treatment of this kind will enable your well to stay on production for a much longer period of time. The Cavins is indispensable for this purpose.

Send for Catalog and Performance Data

THE CAVINS COMPANY

2853-73 Cherry Ave., Long Beach, California
Branches—CALIFORNIA: Bakersfield, Taft, Ventura. TEXAS: Houston, Kilgore, Odessa, Big Springs, Monahans, Pampa. OKLAHOMA: Oklahoma City, Perry. NEW MEXICO: Lovington. TRINIDAD, B. W. I.

State's Position Postpones Harbor Drilling Settlement

State claims minerals underlying filled-in land; Long Beach postpones third reading of ordinance, but denies state's claim. State supreme court to decide on status of Olson Huntington Beach bill.

The drilling situation at Long Beach, in the Harbor District in which Long Beach holds lands and concerning the drilling of which it has thus far been impossible to come to any decision, will be up in the air for another 30 days, at least. The proposed ordinance, which passed the first two readings about a month ago, has not been read the third time, and is still held in abeyance. It cannot be adopted until after the third reading, after which a period of 30 days must elapse before it becomes operative, hence early drilling on the lands in question cannot be expected.

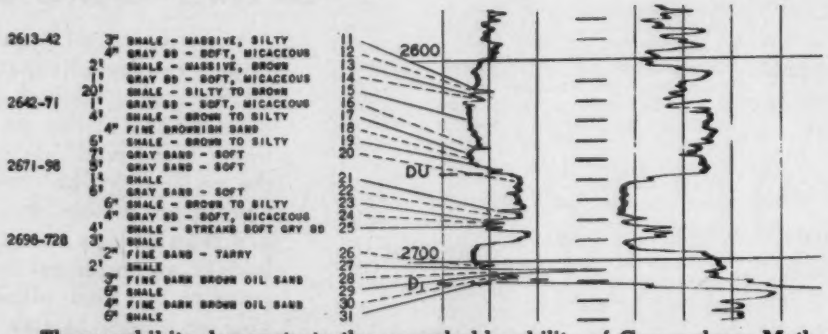
The delay in the third reading has been caused by two factors. The first was to give the companies with leases in the area every opportunity to include, in their leases, the owner of less than one acre of land, the smallest unit upon which drilling is permitted under the terms of the Long Beach ordinance. It was felt, by both the City of Long Beach and the industry, that the preclusion of the owner of less than one acre from any possible participation in oil revenues was unfair to the person involved, hence when the city suggested that the small plot-owner be brought into participation through community leases, the companies all agreed to make every effort to form such leases. The Harbor Ordinance was therefore tabled temporarily in order to give all operators an equal opportunity to close such leases, without penalizing one operator at the expense of another by allowing drilling to start before the leases could be made.

The second postponement was caused by the state's definite entrance into the picture in its claim that all lands now lying between the old high-tide line and the new high-tide line were reserved, insofar as their minerals are concerned, to the state. The change in tidelines is of course due to the filled-in land in the area, this filled-in land being the bone of contention between the city of Long Beach and the state.

The tabling of the measure, in this instance, is primarily to give Long Beach an opportunity to consolidate its case—either by getting together in some sort of compromise

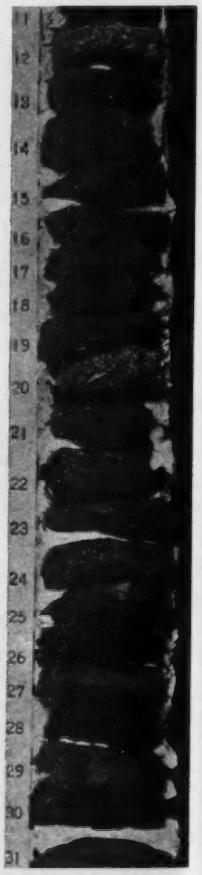
OIL, GAS or WATER?

If you are in doubt about the exact nature of certain formations in your field, consult Geoanalyzer. Geoanalyzer engineers, consistently first in developing new accuracy in electrical logging methods, have prepared exhibits showing the exact relation of Geoanalyzer curves to the ACTUAL CORE for some of the active California fields.*



These exhibits demonstrate the remarkable ability of Geoanalyzer Methods for defining the presence of thin bodies when interpreting subsurface characteristics.

***Exhibits have been prepared showing relation of Geoanalyzer curves to the actual core for the following fields: Wilmington, Shiells Canyon, El Segundo, East Coyote and Rosecrans. These exhibits may be examined by responsible operators at our Long Beach headquarters.**



GEOANALYZER CORPORATION

2555 American Ave., Long Beach, Calif. Phone 420-96

518 E. 19th St., Bakersfield, Calif. Phone 1420

with the state, or by deciding that the state has no claim and being prepared to fight it on that basis, or in some other way to make up its mind as to the course of action it will pursue. At present, Long Beach denies the state's claim on the ground that the measure under which the state claims the land was passed in 1921, whereas the property in question was turned over to Long Beach by the state in 1911.

Olson Bill Status

The State Supreme Court has taken original jurisdiction on two questions as to the Olson tideland drilling law. Petitions against both the Olson and O'Donnell laws were signed by enough people to put them on the ballot, but the question regarding the Olson law is whether or not it is subject to a referendum, the bill itself declaring that it is an urgency measure, hence not amenable to a referendum.

The Supreme Court will consider the cases on this bill on Oct. 5. The court is to decide whether, in one case, the Olson bill is an urgency measure, and whether, in another case, it is constitutional. The latter question has been brought up because the Olson bill, while it was passed by the State Legislature and signed by the governor, applies only to a certain specific area, Huntington Beach. It is the opinion of many attorneys that the law is unconstitutional because of the restricted area to which it applies, their contention being that anything passed by the State Legislature must apply to all comparable conditions throughout the state.

The O'Donnell bill is, of course, dead until the next general election, in 1938, unless a special election is called for some purpose, at which time it could also be placed upon the ballot. If the Olson bill is declared constitutional, but subject to a referendum, it also will be dead until the next election. If, however, it is declared constitutional and not subject to a referendum, the Huntington Beach tidelands will be drilled under its terms, even though the O'Donnell bill might subsequently be voted upon favorably at the next election, by which time the tidelands would in all probability have been drilled up. If the Olson bill is declared unconstitutional, the tideland situation will be just where it has been—nothing can be done until an election determines whether the people of the state want the Huntington Beach tidelands drilled under the terms of the O'Donnell bill. That same condition would apply if the Olson bill is declared constitutional but not an urgency measure.

In the meantime, the Supreme Court (California) has held up the opening of the bids under the Olson bill, scheduled for Sept. 10, until after it has rendered a decision on the matters before it, which will not be before Oct. 5, the date set for the court's consideration of the questions.

Just Say---

YES! You may send me the CALIFORNIA OIL WORLD for one year, for which I enclose $1.00.

For Foreign Countries, $2.00

Name _____

Address _____

City _____ State _____

Position _____ Company _____

Check branch engaged in Producing..... Refining..... Natural Gasoline..... Marketing..... Manufacturing.....

Subscriptions accepted only from persons actively connected with the oil industry.

California Oil World, 714 W. Olympic Blvd., Los Angeles

THREE CONCLUSIVE STEPS TO PLUG VALVE SATISFACTION

1. INSTALL MacClatchie "Hydro-Seal" Plug Valves at every point where perfect fluid control must be maintained under all pressures.

2. TEST them under all circulating conditions—note how their Grease-Expanded Lips and Ball-Thrust Bearings keep them pressure-tight, leak-proof and easy to turn under even the highest pressures!

3. CONVINCE yourself, by measuring their longer life and continued efficiency against any other plug valve on the market, that MacClatchie "Hydro-Seal" Plug Valves give superior performance at a definite saving!

Hundreds of progressive operators in all parts of the world have made this showdown test, and have adopted MacClatchie "Hydro-Seals" for their plug valve requirements. They'll sell themselves to you, too!

MacCLATCHIE MANUFACTURING CO.

COMPTON, CALIF. HOUSTON, TEXAS

EXPORT: GEO. R. WOODS, 17 BATTERY PL., NEW YORK CITY

Howard Enters Supply Business

Harold E. Howard has recently formed the Howard Supply Co., a California corporation, to handle sales of general oil well equipment. The new company is well-manned and equipped to take its place among the leaders in the supply business.

Mr. Howard, formerly general manager of the Ducommun Metals and Supply Co., is president and organizer. L. George Trembly has been named vice-president and director of sales. Arthur G. Moyer is secretary and treasurer. Don D. Lucas and Earl Covel are district managers.

The Howard Supply Co. is now the exclusive California oil well distributor for the Republic Steel Corp., which includes casing, tubing, line pipe, merchants' pipe, and Toncan iron pipe. Other lines will be announced shortly, according to officials of the company.

The company will locate at 5125 Santa Fe Avenue, where the five-acre site formerly occupied by the Union Iron Works is being remodeled for them. Office space will comprise approximately 6000 square feet and in addition to this, there will be extensive warehouse facilities amounting to over 40,000 square feet of floor space. It is expected that more than $25,000 will be expended in renovating the huge warehouse building.

Officers and personnel of this new company are well known in California oil work. Mr. Howard, who has been identified with Ducommun for more than 25 years, was the key man in developing the new business. His extensive training in organization and sales work for the past quarter of a century well qualify him in his capacity as president of his own company. Well known in financial and commercial circles in Los Angeles, he has a host of friends who are now congratulating him upon the formation of his new company.

L. George Trembly has had more than 20 years experience in the oil well supply business in California and has made numerous friends and acquaintances throughout the oil industry. At one time he was California manager for the Axelson Manufacturing Co. and later, special representative for the Oil Well Supply Co. For the past year and a half he has been manager of the oil well tubular division of Ducommun Metals and Supply Co.

A. G. (Art) Moyer was also with Ducommun for the past eleven years, and during the past four years acted as assistant to Mr. Howard. He is well qualified by his years of experience for his new position as secretary and treasurer.

D. B. (Don) Lucas was employed by the Standard Oil Co. for two and a half years and joined the National Supply Co. in 1922 as store manager in Bakersfield. He occupied this position for 13 years and has come to know thoroughly the oil industry in California. He left National to join Ducommun when their oil field division was established and acted in the capacity of manager for the San Joaquin Valley. He will continue in this position for the Howard Supply Co.

Earl Covel is district manager for the Los Angeles Basin. He was with the National Supply Co. for more than 16 years as their district manager for Southern territory, and then joined Hillman-Kelley as manager of their tubular department in 1920. Covel later joined Ducommun as tubular representative of their oil field department, southern district.

Bronzan Promoted By Baash-Ross

The promotion of B. (Lou) Bronzan to the post of assistant sales manager of Baash-Ross Tool Co. is announced by H. C. Ross, vice president and sales manager of the company.

Bronzan has been a member of the sales department for six years, and until his recent promotion was head of the order department. His headquarters will continue to be at the general offices at 5512 Boyle Avenue, Los Angeles.

McCargar Stimulates Electrical Sales

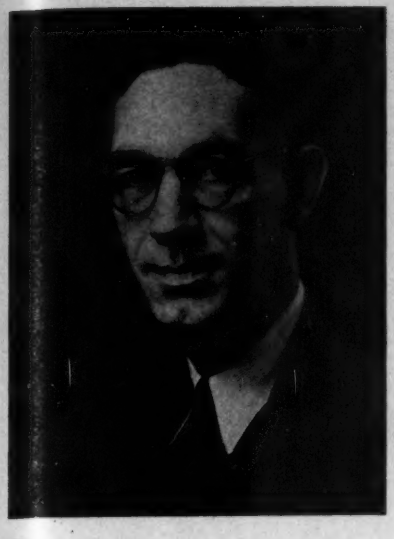
D. M. McCargar, engineer of the petroleum industry division of Allis-Chalmers Manufacturing Co., is to spend the next few weeks at the Los Angeles offices of the company. His objective is to bring his company's electrical drilling equipment to the attention of California operators.

Schuyler Buys Share In Tubular Sales Co.

Jack Schuyler has acquired an interest in the Tubular Sales Co., following several months of sales activity in the corporation's interest.

Mr. Schuyler recently celebrated his twenty-fifth anniversary in the supply business. He began his career on Feb. 12, 1912, with the Oil Well Supply Co. at Pittsburgh, Pa., and for several years covered the Eastern fields and the Rocky Mountain territory for that company. He came to California in 1921, and soon associated himself with the Hillman-Cooney organization. He joined the Vernon Tool Co. in 1931, and left three years later to become Vice-President of the Baash-Ross Tool Co.

Shell Manager Of Manufacturing Dies



Donald McLain Day, manager of manufacturing for Shell Oil Co., who died last month, was born in Butte, Montana, Sept. 18, 1894, and was educated at Stanford University. Leaving college in 1915, he entered the service of the New Orleans Refining Co. at Goodhope, Louisiana.

This work was interrupted by the World War, Mr. Day enlisting in the United States Navy and serving as lieutenant, J. G., from July, 1917, to March, 1919. He then returned to Goodhope and advanced steadily from stillman to assistant superintendent and finally to superintendent.

In 1928 Mr. Day joined Shell Oil Co. in California as assistant manager of Wilmington Refinery. Two years later he went to Martinez Refinery as assistant superintendent and became manager in 1932.

Following a study trip to Europe in 1935, Mr. Day became manager of the manufacturing department, the position he held at the time of his death.

Mr. Day had been in ill health for some time but his death on Friday, August 27, was a great shock. He is survived by his widow and four children.

Wiley Commissioned Major In Artillery

John Wiley, of the Key Co., has received a commission as major in the Field Artillery Reserve. He recently returned from a tour of two weeks' active duty at the U. S. Army camp at Monterey.

Williams In Charge Of New Republic Office

The Republic Supply Co. has opened a sales office in San Francisco at 803 Sharon Building, with Stanwood I. Williams as representative in charge.

In addition to representing Republic's regular lines, including Youngstown Oil country tubular goods, Hughes Tool Co. products, Broderick & Bascom wire rope, Bethlehem sucker rods, Goodrich mechanical rubber goods, Garlock packing, Crane valves and fittings, etc., Mr. Williams will handle the sales work in San Francisco on Republic's newly acquired line of Emsco oil field machinery.

Schlumberger Opens Bakersfield Branch

The Bakersfield branch of the Schlumberger Well Surveying Corp. has moved into its new home on the northeast corner of 34th and L streets in Bakersfield. The new building was especially designed for the use of the company, and provides spacious offices, drafting rooms and equipment rooms. Surrounding the building on three sides is a fenced compound, with garages in the rear to accommodate the operating trucks.

J. H. Gallois remains in charge of the Bakersfield division. The telephone number—Bakersfield 5679—remains unchanged.

(Left) The new Bakersfield home of Schlumberger Well Surveying Corp.

(Below) Personnel of the Bakersfield Branch.

(Left to right) R. Ford; M. Lebourg, J. H. Gallois, Manager; Dick Richards; Dick Morris; J. Jouanet.

Business and Professional Directory

THE
HANCOCK OIL COMPANY
of
CALIFORNIA

PRODUCERS - REFINERS
MARKETERS

J. R. PEMBERTON
Oil Umpire
1110 Security Title Insurance Bldg.
Los Angeles, Calif.
TRinity 9705

MARTIN VAN COUVERING
PETROLEUM ENGINEER
405 South Hill Street
LOS ANGELES
CALIF.
MIchigan 8781

THE PETROL CORPORATION
Producers and Refiners
Petrol Gasoline - Super Petrol Gasoline
Kerosene - Fuel Oils - Diesel Oil - Asphalts
Road Oils - Lubricating Oils
Distillates
4020 Bandini Blvd. - Los Angeles, Cal.

GEORGE A. MACREADY
Geologist and Engineer
Core Orientation Service
Formation Tester Service
Phones: ADams 6744 — Res. VErmont 8768
3675 S. Main St.
LOS ANGELES

GRAYDON OLIVER
PETROLEUM ENGINEER
215 West 7th Street
Los Angeles, Calif. VAndike 3696

BOLSA CHICA OIL CORP'N
Producers of Petroleum
555 So. Flower St. - Los Angeles, Cal.

SMITH-EMERY CO.
Since 1904
Oils Tested
Shipments Certified
Tanks Strapped
Offices and Laboratories
920 Santee St., Los Angeles
651 Howard St., San Francisco

CORE ANALYSIS LABORATORY
(Incorporated)
Specializing in the physical determination of porosity, permeability, oil and water saturation of core samples.
P. O. Box 461, Ventura, Calif.
Telephone Ventura 6355

Classified Advertisements

CLASSIFIED ADVERTISING RATES

Small type: 50c per line per insertion. Count six words to a line. Minimum charge $2.00. All classified advertising payable in advance. Four consecutive insertions at price of three, if copy does not change.

24 times .....$ 7.50 per inch
1 time ..... 10.00 per inch

Not responsible for more than one incorrect insertion.

WATER DEVELOPMENT GUARANTEED

Water surveying service. David Romey, Phone Wilmington 1414, 507 Broad Ave., Wilmington, Calif. tf

REFINERIES AND GASOLINE PLANTS

Reconditioned or new heat exchangers, stills, fractionators, absorbers, condensers, at cut prices. Plants designed any size for any use. W. F. Pyne, 909 S. Ardmore Ave., Los Angeles. DRexel 1412. tf

SCOUT REPORTS

NEW MEXICO LEASEHOLDERS: For reliable information on New Mexico developments take my weekly scout report. W. S. Patterson, Santa Fe, N. M.

PIPE

Line Pipe, Rat-Hole Pipe, Conductor Pipe Surface Casing, used, at low prices. Also 2 tubular boilers —100 h.p., 100-lb. pressure. Bargain. Imperial Pipe & Supply Co., 2901 Santa Fe Ave., Los Angeles, Calif. Phone JE. 1104. tf

FOR SALE

Oil leases—Ventura county—Oxnard Area, Box 42, California Oil World, Los Angeles. 9-20d

Locate hydrocarbons accumulated underground ORCO SERVICE "Sub-Surface-Survey". P. O. Box 673—Santa Ana, Calif. 11-5d

OIL PROPERTIES WANTED

WANTED—IN CALIFORNIA, Proven oil properties, preferably low gravity. Also want wildcat acreage with geology. Box 300, c/o California Oil World. 9/20d

MAPS
Large map of Los Angeles Basin oil fields and map showing all California oil fields. Price $15.00 each on paper and $20 each on cloth. Individual state oil and gas maps of Mid-Continent and Rocky Mountain regions. Maps show geological cross sections at base. These maps indicate wells drilling, wells producing and abandoned, with depths.
All maps revised up to date of purchase.
JAMES C. BRANSFORD
1127 Story Bldg.
Los Angeles, Calif.
Phone: TUcker 7530

"Caterpillar" Diesel Drilling Described

Drilling oil wells with "Caterpillar" diesel engines is the subject of a new booklet issued by Caterpillar Tractor Co.

Specific examples of "Caterpillar" diesels powering rotary rigs, cable tool rigs, and spudders are given.

The booklet, which is printed in two colors, is designated as Form 4373 and may be obtained by writing Caterpillar Tractor Co., Peoria, Illinois.

Murray Pfleider Enters Restaurant Business

Murray "Lefty" Pfleider, superintendent of transmission for the Kern division of the Southern California Gas Co., resigned last month (August) to enter the restaurant business. Pfleider had been identified with the company in the Taft area since 1923 and has been a member of the board of directors of the Taft chapter of the C.N.G.A. for the past two years. Grove Lawrence has been transferred from the Los Angeles offices of the company to replace Pfleider at Taft.

Bell Meets Leopard; Now In Hospital

Tom Bell, well-known driller in California, who has been drilling in Rhodesia, South Africa, has always been an inveterate hunter and spent his spare time there hunting. He recently had an encounter with a leopard and as a consequence has been confined to a hospital for three months.